# EXHIBIT A

## IN THE UNITED STATES DISTRICT COURT SOUTHERN DISTRICT OF TEXAS HOUSTON DIVISION

IN RE KBR,	INC.	SEC	URITI	ES
LITIGATION	J			

Case No. 4:14-CV-01287

REPORT ON MARKET EFFICIENCY
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FEBRUARY 19, 2016

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#### I. SCOPE OF PROJECT AND REPORT

- I was asked by Bernstein Litowitz Berger & Grossmann LLP and Labaton Sucharow LLP, Counsel for the Lead Plaintiffs, to determine whether the common stock of KBR, Inc. ("KBR" or the "Company") traded in an efficient market during the period from September 11, 2013 through July 30, 2014 (the "Class Period").
- 2. In addition, I have been asked to opine on whether damages in this matter can be computed using a common class-wide methodology for all Class members in connection with their claims under Section 10(b) of the Exchange Act of 1934 (the "Exchange Act") and U.S. Securities & Exchange Commission ("SEC") Rule 10b-5 adopted thereunder (collectively, "Section 10(b)").
- 3. Toward these ends, I analyzed the market for KBR common stock, the price behavior of the stock, and the factors that are generally accepted to be indicative of market efficiency. I examined Company press releases, conference call transcripts, equity analyst reports, news articles, SEC filings, daily prices of the common stock, trading volume, the performance of the overall stock market, and the performance of KBR's peer group, as well as other pertinent data and documents. I also read the Consolidated Class Action Complaint (the "Complaint") dated October 20, 2014, and considered the allegations therein. Exhibit-1 lists the documents I considered in preparing this report and arriving at the opinions expressed herein.
- 4. This report presents my methodology, findings, and conclusions.
- 5. I reserve the right to amend, refine, or modify my opinion and report, including in the event any additional information or analysis becomes available.

#### II. <u>CREDENTIALS</u>

6. I am an Associate Professor of Finance at Babson College, and the founder and president of Crowninshield Financial Research, Inc., a financial economics consulting firm.

- 7. I hold a Ph.D. in Economics from Yale University, a Master of Philosophy degree in Economics from Yale University, a Master of Arts in Economics from Yale University, and a Bachelor of Arts degree in Economics from Pomona College. I also hold the Chartered Financial Analyst ("CFA") designation, granted by the CFA Institute.
- 8. At Babson College, I have taught undergraduate and MBA level courses in Capital Markets, Investments, Equity Analysis, Fixed Income Analysis, Financial Management, Risk Management, Quantitative Methods, and Security Valuation. I have also taught executive courses on investments and corporate financial management for numerous corporations. Other courses I have taught are listed in my curriculum vitae, which is attached as Exhibit-2.
- 9. At Babson College, I have held the Chair in Applied Investments and served as the Director of the Stephen D. Cutler Investment Management Center, a research and education center dedicated to the study and teaching of investments and capital markets.
- 10. Prior to my joining the faculty at Babson College, I taught finance at Boston University. Previously, I was an Economist at the Federal Reserve Bank of Atlanta where my primary responsibilities were to monitor financial markets, analyze proposed regulation, and advise the Bank President in preparation for his participation in meetings of the Federal Open Market Committee the government body responsible for monetary policy in the United States.
- 11. I have published extensively in the field of finance. My finance articles have appeared in the Atlanta Federal Reserve Bank Economic Review, Derivatives Quarterly, Derivatives Weekly, The Engineering Economist, The Journal of Risk, The American Bankruptcy Institute Journal, The Journal of Financial Planning, The Journal of Forensic Economics, Managerial Finance, Risk Management, and Primus. I am the author of Finance and Accounting for Project Management, published by the American Management Association. I wrote two chapters in the book The Portable MBA in Finance and Accounting one on corporate financial planning and the other on risk management. I have presented research at the annual conventions of the American Finance Association, the Academy of Financial Services, the Multinational Finance Society, the Financial Management Association, the Taxpayers Against Fraud Education Fund Conference, and the International Conference on Applied Business Research. Co-authored papers of mine

- have been presented at the Eastern Finance Association meetings and the Midwestern Finance Association meetings. A list of all the publications I authored in the previous ten years can be found in my curriculum vitae, which is attached as Exhibit-2.
- 12. I have been selected to review papers for numerous finance journals and conferences, and I have reviewed finance textbook manuscripts for Prentice-Hall, Elsevier, Blackwell, and Southwestern Publishing. I have been quoted on matters relating to finance and investments in *The Wall Street Journal*, *The Washington Post*, *The New York Times*, *The Financial Times*, *The Boston Globe*, and *Bloomberg News*, and my research relating to financial analysis and valuation has been discussed in *The Wall Street Journal*, *Bond Buyer*, and *Grant's Municipal Bond Observer*.
- 13. I am a member of the American Finance Association, the Financial Management Association, the North American Case Research Association, the National Association of Forensic Economics, the CFA Institute, and the Boston Security Analysts Society, where I have served as a member of the education committee and ethics subcommittee. I served on the Fixed Income Specialization Examination Committee of the CFA Institute.
- 14. The CFA designation is the premier credential for financial analysts worldwide. In order to receive this credential, applicants must pass a series of three exams covering such topics as economics, equity analysis, financial valuation, business analysis, quantitative methods, investment analysis, portfolio management, risk management, financial accounting, and ethical and professional standards. For over ten years I taught in the Boston University CFA Review Program and the Boston Security Analysts Society CFA Review Program two of the leading review programs that prepared candidates for the CFA exams. In both of these programs I taught candidates at the most advanced level.
- 15. In addition to my teaching, research, CFA, and academic community responsibilities, I practice extensively as a financial consultant. Past clients include the United States Securities and Exchange Commission, the Internal Revenue Service, the Attorney General of the State of Illinois, and the National Association of Securities Dealers. As a financial consultant, I have conducted analyses and presented opinions related to markets, valuation, and damages in over 70 cases. Exhibit-3 lists my prior testimony appearances over the past four years.

16. I am the sole owner of the consulting firm Crowninshield Financial Research, which receives compensation for the work performed by me and the analysts who assist me on this case. My firm is being compensated at a rate of \$825 per hour for my work. My compensation is neither contingent on my findings nor on the outcome of this matter.

#### III. <u>CONCLUSIONS</u>

- 17. KBR common stock traded in an efficient market over the course of the Class Period. KBR common stock satisfied the factors set forth in *Cammer v. Bloom*, 711 F. Supp. 1264, 1273 (D.N.J. 1989) and *Krogman v. Sterritt*, 202 F.R.D. 467 (N.D. Tex. 2001), which, consistent with financial economic principles and empirical research, indicate market efficiency.
- 18. KBR common stock exhibited statistically significant price reactions in response to new information on the four disclosure event dates, as described herein. Additional statistical tests examining the behavior of KBR common stock on earnings and guidance announcement dates further indicate that KBR common stock responded to new, Company-specific information throughout the Class Period. This empirical analysis demonstrates that there was a cause and effect relationship between the release of new, Company-specific information and movements in KBR's common stock price, which not only indicates market efficiency, but demonstrates the essence of market efficiency.
- 19. Based on the foregoing, I conclude that KBR common stock traded in an efficient market over the course of the Class Period.
- 20. Damages in this matter can be computed using a common methodology for each of the claims alleged on behalf of the Class, respectively.

#### IV. FACTUAL BACKGROUND

#### A. About the Company

- 21. Prior to and throughout the Class Period, KBR described itself as "a global engineering, construction and services company supporting the energy, hydrocarbons, power, minerals, civil infrastructure, government services, industrial and commercial market segments."
- 22. At the start of the Class Period, the Company operated five business segments: 1) Gas Monetization; 2) Hydrocarbons; 3) Infrastructure, Government, and Power; 4) Services; and 5) Other.<sup>2</sup> The Company's Services segment delivered "direct-hire construction and construction management for stand-alone construction projects" and did business in all of the Company's global markets, including Canada.<sup>3</sup> The Company's Canadian business accounted for 10% and 12% of the Company's total revenues in fiscal years ("FY") 2013 and 2014, respectively.<sup>4</sup>
- 23. In FY 2013 and 2014, the Company reported total revenue of \$7.2 billion and \$6.4 billion, respectively.<sup>5</sup> The revenue generated from the Company's Services segment accounted for \$2.0 billion, or 28% of the Company's total revenues, in FY 2013.<sup>6</sup> Following a 2014 reorganization, KBR's services segment was integrated with other segments to create a new Engineering & Construction segment.<sup>7</sup> In FY 2014, this segment reported revenues of \$4.58 billion, which accounted for approximately 72% of the Company's total revenues in that year.<sup>8</sup>

<sup>&</sup>lt;sup>1</sup> KBR, Inc., Form 10-KA for the Fiscal Year Ended December 31, 2013, filed May 30, 2014, p. 6.

<sup>&</sup>lt;sup>2</sup> Id., pp. 6-7.

<sup>&</sup>lt;sup>3</sup> Id., p. 7.

<sup>&</sup>lt;sup>4</sup> KBR, Inc., Form 10-K for the Fiscal Year Ended December 31, 2014, filed February 27, 2015, p. 6.

<sup>&</sup>lt;sup>5</sup> Id., p. 25.

<sup>&</sup>lt;sup>6</sup> KBR, Inc., Form 10-KA for the Fiscal Year Ended December 31, 2013, filed May 30, 2014, p. 30.

<sup>&</sup>lt;sup>7</sup> KBR, Inc., Form 10-K for the Fiscal Year Ended December 31, 2014, filed February 27, 2015, p. 4 and p. 32.

<sup>&</sup>lt;sup>8</sup> Id., p. 31.

- 24. Throughout the Class Period, KBR, Inc. common stock was listed and traded on the New York Stock Exchange ("NYSE") under the symbol KBR.<sup>9</sup>
- 25. As of the close of trading on September 10, 2013, the last trading day prior to the start of the Class Period, the KBR common stock price was \$31.35 per share, according to share price data obtained from Center for Research in Security Prices ("CRSP"). By the close of trading on July 31, 2014, the day after the end of the Class Period, the KBR stock price had fallen to \$20.66 per share, representing a decline of 34.1% from the start of the Class Period.
- 26. As of the close of trading on September 10, 2013, the KBR market capitalization (the aggregate value of all outstanding common shares) stood at \$4.64 billion. By the close of trading on July 31, 2014, the Company's market capitalization had declined to \$3.00 billion. The decline in market capitalization from the day prior to the start of the Class Period to the day after the end of the Class Period was \$1.64 billion, or 35.3% of the Company's equity value.

#### V. <u>EFFICIENT MARKET DEFINED</u>

27. The definition of market efficiency set forth by Judge Alfred J. Lechner, Jr. in the 1989 Cammer v. Bloom decision is often cited as a legal authority on the meaning of market efficiency and is consistent with the definition of informational efficiency generally accepted by the academic finance community:

"As relevant here, courts have permitted a rebuttable presumption of reliance in the case of securities traded in 'efficient markets' (*i.e.*, markets which are so active and followed that material information disclosed by a company is expected to be reflected in the stock price)."

Cammer v. Bloom Opinion, 711 F. Supp. 1264, 1273 (D.N.J. 1989).

28. Judge Lechner also cited the definitions offered by commentators Alan R. Bromberg and Lewis D. Lowenfels, and by finance professor Eugene Fama:

<sup>&</sup>lt;sup>9</sup> Id., p. 22.

<sup>&</sup>lt;sup>10</sup> Shares outstanding data obtained from Company SEC filings.

<sup>&</sup>lt;sup>11</sup> Id.

"An efficient market is one which rapidly reflects new information in price."

Alan Bromberg & Lewis Lowenfels, Securities Fraud and Commodities Fraud, §8.6 (Aug. 1988); see also Cammer, 711 F. Supp. at 1276.

"A market in which prices always 'fully reflect' available information is called 'efficient."

"Efficient Capital Markets: A Review of Theory and Empirical Work," by Eugene Fama, *Journal of Finance*, 1970, cited in *Cammer*, 711 F. Supp. at 1280.

29. Professor Fama elaborated and refined his definition in a *Halliburton II* amici curiae that he co-authored:

"But economists do not generally disagree about whether market prices respond to new material information. In particular, there is little doubt that the stock price will increase reasonably promptly after favorable news about a company is released and decline after unfavorable news. Our conclusion that prices generally move reasonably promptly in the predicted direction in response to unexpected material public information (favorable or unfavorable) is perfectly consistent with the view that there are sometimes anomalies in the way markets process information and that bubbles can exist."

Brief of Financial Economists as Amici Curiae in Support of Respondents, *Halliburton Co. and David Lesar v., Erica P. John Fund, Inc.*, FKA Archdiocese of Milwaukee Supporting Fund, Inc., February 5, 2014, p. 3 (emphasis in original).

30. The Supreme Court in the *Basic v. Levinson* decision focused on the same important characteristic at the heart of these definitions of market efficiency:

"The fraud on the market theory is based on the hypothesis that, in an open and developed securities market, the price of a company's stock is determined by the available material information regarding the company and its business ...."

Basic v. Levinson, 485 U.S. 224, 243,108 S. Ct. 978, 988-89, 99 L. Ed. 2d 194 (1988); see also Cammer, 711 F. Supp. at 1276.

31. The 2013 *Amgen* decision defined market efficiency similarly:

"The fraud-on-the market premise is that the price of a security traded in an efficient market will reflect all publicly available information about a company ... ."

Amgen Inc. v. Conn. Ret. Plans & Trust Funds, \_U.S.\_, 133 S. Ct. 1184, 1190 (2013), 185 L. Ed. 2d 308 (2013).

32. In its recent *Halliburton II* decision, the Supreme Court addressed the cause and effect relationship at the center of market efficiency thusly:

"Even the foremost critics of the efficient-capital-markets hypothesis acknowledge that public information generally affects stock prices. ... Debates about the precise *degree* to which stock prices accurately reflect public information are thus largely beside the point. "That the . . . price [of a stock] may be inaccurate does not detract from the fact that false statements affect it, and cause loss," which is 'all that *Basic* requires." *Halliburton Co. v. Erica P. John Fund, Inc.*, 134 S. Ct. 2398, 2410, 189 L. Ed. 339 (2014) ("Halliburton II") (emphasis in original).

33. An efficient market, as defined by *Cammer*, *Basic*, *Amgen*, Bromberg and Lowenfels, and Fama, is a market in which available information is rapidly incorporated into the price of a security such that the trading price reflects all available information. As these cases and *Halliburton II* recognized, market efficiency is relevant to a securities case as it addresses the question of whether false information (*e.g.*, in the form of an alleged misrepresentation or omission) would likely have impacted the prices at which investors bought and sold, and which was therefore relied upon.

#### A. The Cammer Factors

- 34. The *Cammer* opinion lays out five factors that would indicate whether the market for a security is efficient. As described below, economic rationales support each factor as an indicator of market efficiency. The five factors are: 1) trading volume, 2) coverage by securities analysts, 3) number of market makers, 4) eligibility for S-3 registration, and 5) empirical evidence that the security price reacts to new, company-specific information.
- 35. Empirical research has confirmed that volume, number of market makers, and analyst coverage are indicative of market efficiency:

"Consistent with the efficiency indicators used recently by the courts, the inefficient firms have lower mean trading volume, fewer market makers, lower analyst following, and lower institutional ownership (number and percentage) than efficient firms."

"The Fraud-on-the-Market Theory and the Indicators of Common Stocks' Efficiency," by Brad M. Barber, Paul A. Griffin, and Baruch Lev, *Journal of Corporation Law*, 1994, p. 302.

- 36. Barber, et al., also found that high institutional ownership was indicative of market efficiency.
- With respect to the empirical factor, Barber, et al. used empirical tests as the standard for market efficiency by which to judge the probative value of the other variables.Consequently, they acknowledge the importance of the empirical factor.
- 38. Consistent with financial economic theory and empirical research, the language used by the *Cammer* court describes the factors not as five *necessary* factors, but rather as indicative of the degree to which the market for a security is expected to be efficient:

"There are several different characteristics pertaining to the markets for individual stocks which are probative of the degree to which the purchase price of a stock should reflect material company disclosures." *Cammer*, 711 F. Supp. at 1283.

39. The *Cammer* opinion describes the nature of the five factors as follows:

"There are several types of facts which, if alleged, might give rise to an inference that Coated Sales traded in an efficient market. It is useful to set forth an explanation of how the existence of such facts would cause the understanding that disclosed company information (or misinformation) would be reflected in the company's stock price, the underpinning of the fraud on the market theory. *Peil, supra, 806 F.2d at 1160.*" **Id. at 1285-86 (footnote omitted).** 

"First, plaintiffs could have alleged there existed an average weekly trading volume during the class period in excess of a certain number of shares." **Id. at 1286.** 

"Second, it would be persuasive to allege a significant number of securities analysts followed and reported on a company's stock during the class period."

Ĭd.

"Third, it could be alleged the stock had numerous market makers." **Id.** 

"Fourth, as discussed it would be helpful to allege the company was entitled to file an S-3 Registration in connection with public offerings..."

Id. at 1287.

"Finally, it would be helpful to a plaintiff seeking to allege an efficient market to allege empirical facts showing a cause and effect relationship between unexpected corporate events or financial releases and an immediate response in the stock price."

Id.

#### B. The *Unger/Krogman* Factors

- 40. In addition to the five *Cammer* factors that indicate market efficiency, the Fifth Circuit Court of Appeals in *Unger v. Amedisys*, 401 F.3d 316 (5th Cir. 2005), and the district court in *Krogman v. Sterritt*, 202 F.R.D. 467 (N.D.Tex. 2001), concluded that three additional factors were also indicative of market efficiency.
- 41. These additional factors, the *Unger/Krogman* factors, are: 1) the company's market capitalization, 2) the stock's float, and 3) the typical bid-ask spread.
- 42. Market capitalization is the total value of all outstanding shares. It equals the number of shares outstanding times the price per share. Reasonably, the larger the market capitalization, the more prominent and well known the company will be. Larger companies tend to attract more analyst and news media coverage, and gain the attention of greater numbers of investors, including very large institutional investors. All of these characteristics, which accompany a large market capitalization, promote market efficiency.
- 43. The stock's float is the number of shares outstanding, less shares held by insiders and affiliated corporate entities. It is generally the number of shares available for trading by outside investors in the open market. Float is highly correlated with market capitalization, but it focuses on the shares available for trading rather than all outstanding shares. Stocks with large levels of float tend to trade more actively, attract more analyst and news media coverage, and garner the attention of greater numbers of investors, including large institutional investors. All of these characteristics, which accompany a high float level, promote market efficiency.

44. The bid-ask spread is the difference between the price at which market makers are offering to buy a security and the price at which they are offering the security for sale. If a security is actively traded and information about the security is readily available, the bid-ask spread will tend to be narrow. Moreover, a narrow bid-ask spread makes trading in the security less costly for investors, and thereby tends to attract greater interest, greater coverage, and greater volume, which in turn are factors that are generally considered to promote market efficiency.

#### VI. EFFICIENCY OF THE MARKET FOR KBR COMMON STOCK

45. To assess whether the market for KBR common stock was efficient during the Class Period, I analyzed the market for, and behavior of, KBR common stock, focusing on the factors that are generally accepted to be indicative of market efficiency for a publicly-traded security.

#### A. Trading Volume

- 46. Throughout the Class Period, KBR common stock traded regularly and actively. On average, more than 2 million shares changed hands daily. KBR common stock trading data are presented in Exhibit-4.
- 47. In addition to average daily trading volume, another volume metric to consider in determining market efficiency is the percentage of outstanding shares that turn over each week. During the Class Period, the average weekly trading volume of KBR common stock was approximately 10.1 million shares, or 6.88% of shares outstanding (which included the issued shares owned by insiders). This level of trading activity is above levels accepted by courts as being indicative of market efficiency for common stock. In the case of the common stock of Coated Sales, Inc., the *Cammer* court cited the conclusion of Alan R. Bromberg and Lewis D. Lowenfels that "weekly trading of 2% or

<sup>&</sup>lt;sup>12</sup> Data obtained from CRSP.

<sup>&</sup>lt;sup>13</sup> Estimated by averaging the ratio of the daily trading volume to the number of shares outstanding, and multiplying by 5 (the number of trading days in a typical week).

<sup>&</sup>lt;sup>14</sup> *Cammer*, 711 F. Supp. at 1286.

- more of the outstanding shares would justify a strong presumption that the market for the security is an efficient one; 1% would justify a substantial presumption."<sup>15</sup> The trading volume for KBR common stock during the Class Period was well above the threshold for a strong presumption of market efficiency.<sup>16</sup>
- 48. Both in terms of average daily trading volume and also on the basis of the percentage of outstanding shares traded weekly, the market for KBR common stock was active. Consistent with the *Cammer* opinion, economic theory and empirical research, the active trading volume in KBR common stock is strong evidence of the efficiency of the market for KBR common stock over the course of the Class Period.

#### B. Analyst Coverage and Other Avenues of Information Dissemination

#### 1. <u>Analyst Coverage</u>

- 49. Securities analysts disseminate and interpret information about the companies they cover. They conduct research and provide valuation opinions, helping market participants acquire relevant information and understand the implications of that information for valuation and investment decisions. Consequently, securities analysts facilitate the flow of information and the digestion of information within the marketplace. These functions promote market efficiency.
- 50. KBR was the subject of active analyst coverage during the Class Period. From FactSet, S&P Capital IQ, and Thomson Research, I obtained analyst reports on KBR published during the Class Period by 16 different firms: Barclays, BB&T Capital Markets, CapitalOne, Cowen and Company, Credit Suisse, D.A. Davidson, Deutsche Bank, Gordon Haskett, Jefferies, Johnson Rice & Company, KeyBanc, Macquarie, Stephens, Sterne Agee CRT, UBS, and William Blair.
- 51. Transcripts of KBR's conference calls conducted during the Class Period reveal that at least 3 additional firms followed KBR: Goldman Sachs, Lazard Capital, and Vertical Research Partners.

<sup>&</sup>lt;sup>15</sup> Id., at 1293.

<sup>&</sup>lt;sup>16</sup> KBR's common stock average monthly volume as a percent of shares outstanding ranked in the 2nd decile of U.S. companies by volume as a percent of shares outstanding – meaning that KBR's monthly average volume was greater than at least 80% of all other publicly-traded companies in the U.S.

- 52. Consequently, at least 19 different firms covered KBR during the Class Period.
- 53. Coverage by 19 analysts is considered broad coverage. Barber, et al., [1994] found that coverage by one or two analysts strengthened the presumption of efficiency for a publicly traded stock. Consistent with the *Cammer* opinion, financial economic principles, and published empirical research, the coverage of KBR by professional securities analysts is evidence of the efficiency of the market for KBR common stock during the Class Period.

#### 2. Institutional Ownership and Buy-Side Analysis

54. FactSet Research Systems ("FactSet") provides data on institutional ownership of KBR common stock. The data are compiled from the form 13-F filings that major investment institutions are required to submit to the SEC. Major institutions are defined as firms or individuals that exercise investment discretion over the assets of others in excess of \$100 million. Large investment firms generally employ financial analysts who conduct their own research on the stocks they buy. According to the FactSet data, at least 475 major institutions owned KBR common stock during the Class Period. This fact further supports a finding that the market for KBR common stock was an efficient market during the Class Period.

#### 3. News Coverage

55. The news media also facilitate the flow of material information to the marketplace, thereby promoting market efficiency. In the case of KBR, such coverage was extensive. A Factiva database search established that at least 540 articles were published about the Company during the Class Period.<sup>20</sup>

<sup>&</sup>lt;sup>17</sup> Brad M. Barber et al., "The Fraud-on-the-Market Theory and the Indicators of Common Stocks' Efficiency," *Journal of Corporation Law*, 1994.

<sup>&</sup>lt;sup>18</sup> According to filings that reported holdings, there were 475 institutions that held shares of KBR common stock as of September 30, 2013, December 31, 2013, March 31, 2014 and June 30, 2014. There may have been additional institutions that held KBR stock during the Class Period, though not on the quarterly reporting dates.

<sup>&</sup>lt;sup>19</sup> According to a paper published by the Federal Reserve Board; Finance and Economic Discussion Series, the average number of institutional investors in a particular stock during the period 2000 to 2012 was 175 institutions. ("Hedge Fund Holdings and Stock Market Efficiency," by Charles Cao, Bing Liang, Andrew W. Lo, and Lubomir Petrasekp, *Federal Reserve Board; Finance and Economics Discussion Series*, whitepaper, 2014-36, 2014).

<sup>&</sup>lt;sup>20</sup> Based on a Factiva search for "All Sources" during the period from September 11, 2013 to July 30, 2014, inclusive.

- 56. The articles obtained from Factiva include published news articles and press releases. Information about KBR also emerged throughout the Class Period in the form of SEC filings, conference calls, and investor presentations.
- 57. During the Class Period, therefore, information about KBR was readily available to market participants as there was a consistent flow of news provided by news media, analysts, and various other sources. This extensive news coverage is further evidence of the efficiency of the market for KBR stock.
- 58. KBR was not an obscure company, escaping the notice of analysts and investors. Rather, the Company was large, well known, widely covered, and widely held. These facts strongly support a finding that the market for KBR common stock was efficient during the Class Period.

#### C. Market Makers and Listing on the New York Stock Exchange

- 59. The number of market makers is one of the factors the *Cammer* court determined indicates market efficiency. Market makers are financial intermediaries who trade in a particular security, standing ready to buy and sell with individual investors, institutions, and other market makers. A large number of market makers implies that many market participants are trading that particular stock, which generally results in a high degree of liquidity and a narrower bid-ask spread. With a large number of market makers, it is generally easy for investors to execute trades in a timely fashion and with reasonable transaction costs.
- 60. The subject company in the *Cammer* case, Coated Sales, Inc., was listed on the NASDAQ, an electronic exchange consisting of multiple competing market makers, using electronic systems to make quotes and effect trades.
- 61. The *Cammer* court's understanding that the market-making infrastructure of a stock market is indicative of its efficiency, or lack thereof, makes the fact that KBR common stock traded on the New York Stock Exchange during the Class Period highly relevant. The NYSE is one of the most renowned, most liquid, and most efficient forums for trading stocks in the world. Stocks on the NYSE are traded under the supervision of a lead market maker or "Designated Market Maker" ("DMM"), formerly known as a

- specialist.<sup>21</sup> DMMs are responsible for maintaining a fair and orderly market for each security in which they are assigned.<sup>22</sup>
- 62. In fact, citing Bromberg and Lowenfels, the *Cammer* court explicitly acknowledged the importance of an NYSE listing and the implications of such a listing for market efficiency.

"We think that, at a minimum, there should be a presumption – probably conditional for class determination – that certain markets are developed and efficient for virtually all the securities traded there: the New York and American Stock Exchanges, the Chicago Board Options Exchange and the NASDAO National Market System."

Cammer, 711 F. Supp. at 1292 (quoting Bromberg & Lowenfels, Securities Fraud and Commodities Fraud, §8.6 (1988)).

- 63. At the time of the *Cammer* opinion the NYSE and NASDAQ were distinctly separate exchanges. NASDAQ market makers did not make markets for NYSE-listed stocks such as KBR. However, since that time, the stock markets have evolved dramatically. Beginning in April 2005, NASDAQ enabled trading in most NYSE-listed stocks through its market maker structure.<sup>23</sup> This NASDAQ market making activity is in addition to the principal market for listed stocks on the NYSE.
- During the Class Period, there were at least 127 market makers for KBR common stock, including such well known firms as: Barclays, Deutsche Bank, Goldman Sachs, JPMorgan, Morgan Stanley, and UBS.<sup>24</sup> For the period October 1, 2013 through June 30, 2014, market maker volume was 82.3 million, or 20.3% of total volume.

<sup>&</sup>lt;sup>21</sup> "Fact Sheet; Designated Market Makers," NYSE Euronext, 2012.

<sup>&</sup>lt;sup>22</sup> "Organization and Functioning of Securities Markets," by Frank Reilly and Keith Brown, in *Equity and Fixed Income CFA Program Curriculum*, vol. 5, Pearson Custom Publishing, 2008.

<sup>&</sup>lt;sup>23</sup> "Nasdaq To Enable Customers To Trade NYSE Stocks," Reuters, March 28, 2005.

<sup>&</sup>lt;sup>24</sup> Market maker data obtained from Bloomberg.

65. The facts that it traded on the NYSE and had a large number of market markers is strong evidence that KBR common stock traded in an efficient market throughout the Class Period. KBR's listing on the NYSE gave its stock access to a highly developed network of brokers, with its market overseen by the NYSE DMM. These facts are compelling evidence of the efficiency of the market for KBR common stock.

#### D. S-3 Registration Eligibility

- 66. A company is eligible for S-3 registration when, among other things, it has filed Exchange Act reports for a specified length of time and has outstanding float above a certain sizable value. At the time of the *Cammer* opinion, the conditions for S-3 registration were that a company had filed financial reports with the SEC for 36 months, and had outstanding float over \$150 million held by non-affiliates, or \$100 million of such float coupled with annual trading volume exceeding 3 million shares.
- 67. In 1992, the SEC changed its requirements for S-3 registration eligibility to 12 months of filings and at least \$75 million of float. Since 2007, the SEC has allowed companies with less than \$75 million of float to file an S-3 registration so long as the company has been filing financial reports for at least a year, has "a class of common equity securities listed and registered on a national securities exchange, and the issuers do not sell more than the equivalent of one third of their public float in primary offerings over any period of 12 calendar months." Despite the fact that the \$75 million float requirement has been loosened, courts continue to focus on the \$75 million float benchmark when analyzing this *Cammer* factor. <sup>26</sup>
- 68. The *Cammer* court noted that S-3 registration eligibility is indicative of market efficiency because the filing requirement ensures that financial data are available to market participants, and the "public float" requirement indicates that many market participants would have examined the information.<sup>27</sup>

<sup>&</sup>lt;sup>25</sup> "Revisions To The Eligibility Requirements For Primary Securities Offerings On Forms S-3 And F-3," SEC Release No. 33-8878, December 19, 2007.

<sup>&</sup>lt;sup>26</sup> See, e.g., Vinh Nguyen v. Radient Pharm. Corp., 287 F.R.D. 563, 573 (C.D. Cal. 2012).

<sup>&</sup>lt;sup>27</sup> Cammer, 711 F. Supp. at 1284-85.

"Proposed Form S-3 recognizes the applicability of the efficient market theory to the registration statement framework with respect to those registrants which usually provide high quality corporate reports, including Exchange Act reports, and whose corporate information is broadly disseminated, because such companies are widely followed by professional analysts and investors in the market place. Because of the foregoing observations made by the SEC, the existence of Form S-3 status is an important factor weighing in favor of a finding that a market is efficient." *Cammer*, 711 F. Supp. at 1284-85.

"The 'public float' aspect of the Form S-3 requirements ensures that enough investors have in fact read the previously filed document."

Id. at 1285.

"Again, it is the number of shares traded and value of shares outstanding that involve the facts which imply efficiency."

Id. at 1287.

#### a. Float

- 69. A company's float is the number or value of shares that can potentially trade freely in the marketplace. It is generally defined as the number or value of outstanding shares, minus insider holdings and shares owned by affiliated corporate entities.<sup>28</sup>
- 70. I computed the KBR common stock float using data on shares outstanding and insider holdings presented in the Company's SEC filings, and stock price data obtained from CRSP.<sup>29</sup>
- 71. KBR common stock float averaged \$4.27 billion during the Class Period, far exceeding the level required for S-3 registration. During the Class Period, KBR's float ranged between \$3.18 billion and \$5.35 billion, always exceeding the minimum requirement for S-3 registration eligibility.

<sup>&</sup>lt;sup>28</sup> For a discussion of the generally accepted definitions of shares outstanding and float, see "Float Adjustment Methodology," *S&P Dow Jones Indices*, July 2012.

<sup>&</sup>lt;sup>29</sup> Share data obtained from SEC filings.

#### b. Financial Filings

- 72. KBR regularly filed financial reports with the SEC throughout the Class Period. However, during the Class Period, KBR restated its FY 2013 financial statements which caused a delay in the filing of its Q1 2014 form 10-Q.<sup>30</sup> The delay was related to the issues at the heart of the current case and was relatively short.
- 73. On May 30, 2014, the Company filed a form 10-KA to "restate [its] consolidated financial statements as of and for the year ended December 31, 2013 and to amend related disclosures, including our controls and procedures." Specifically, the Company noted that it had "determined the estimated costs to complete seven Canadian pipe fabrication and modular assembly contracts within [its] Services business segment that were awarded during 2012 and 2013 resulted in pre-tax charges, consisting of the reversal of previously recognized pre-tax profits and the recognition of pre-tax estimated losses at completion."
- 74. Following the restatement, the Company continued to regularly file financial reports with the SEC. In fact, the Company filed a form 10-Q on June 19, 2014 to report its Q1 2014 financial results.<sup>33</sup>
- 75. KBR was eligible throughout the Class Period to file an S-3 registration statement, except for the brief period affected by its Q1 2014 filing delay, the financial information in the SEC filings supplemented by information provided by analysts and news coverage provided investors with access to financial information about the Company on a continuous basis.
- 76. To the extent that S-3 registration eligibility indicates company characteristics associated with market efficiency, the Company clearly possessed those particular characteristics throughout the Class Period.

<sup>&</sup>lt;sup>30</sup> KBR, Inc., Form 10-Q for the Quarter Ended March 31, 2014, filed June 19, 2014; KBR, Inc. Form 10-KA for the Fiscal Year Ended December 31, 2013, filed May 30, 2014.

<sup>&</sup>lt;sup>31</sup> KBR, Inc. Form 10-KA for the Fiscal Year Ended December 31, 2013, filed May 30, 2014. *See* "Explanatory Note."

<sup>&</sup>lt;sup>32</sup> Id.

<sup>&</sup>lt;sup>33</sup> KBR, Inc. Form 10-Q for the Quarter Ended March 31, 2014, filed June 19, 2014.

#### E. *Unger/Krogman* Factors

77. In addition to evaluating market efficiency using the *Cammer* factors, I also examined KBR common stock and its market with respect to the three additional *Unger/Krogman* factors.

#### 1. Market Capitalization

- 78. During the Class Period, the KBR market capitalization averaged \$4.29 billion, putting KBR in the 2<sup>nd</sup> decile of U.S. companies by size meaning that KBR was larger than at least 80% of all other publicly-traded companies in the U.S.<sup>34</sup>
- 79. Consistent with the *Unger/Krogman* opinions, KBR's large market capitalization throughout the Class Period is further evidence of the efficiency of the market for KBR common stock.<sup>35</sup>

#### 2. Float

- 80. As mentioned above, KBR common stock float averaged \$4.27 billion during the Class Period. While float excludes shares held by insiders and affiliated corporate entities, the KBR float was still larger than the total market capitalization of at least 80% of all other publicly-traded companies in the U.S.<sup>36</sup> The size of the KBR's float indicates it satisfied the second *Unger/Krogman* factor for market efficiency.
- 81. Float can also be analyzed as a percentage of total shares outstanding, as well as in absolute share and value terms. On average during the Class Period, there were 146.7 million shares in KBR's float and 147.4 million shares outstanding, resulting in an average float of 99.51% of shares outstanding.<sup>37</sup>

<sup>&</sup>lt;sup>34</sup> Using averaged month-end data from CRSP for September 30, 2013 through June 30, 2014, I grouped public companies into deciles, so that the 1<sup>st</sup> decile contains the largest 10% of all public companies listed on the NYSE, American Stock Exchange, NASDAQ, and ARCA while the 10<sup>th</sup> decile contains the smallest 10%.

<sup>&</sup>lt;sup>35</sup> Investments, by Zvi Bodie, Alex Kane, and Alan J. Marcus, 9th edition, 2011, p. 346.

<sup>&</sup>lt;sup>36</sup> This calculation is based upon averaged month-end data from CRSP for September 30, 2013 through June 30, 2014; KBR share data were obtained from SEC filings.

<sup>&</sup>lt;sup>37</sup> Apparent mathematical discrepancy due to rounding.

82. KBR's substantial float is indicative of the efficiency of the market for its stock during the Class Period.<sup>38</sup>

#### 3. <u>Bid-Ask Spread</u>

- 83. I obtained data on daily closing bid and ask quotes for KBR common stock during the Class Period from CRSP.
- 84. I measured the percentage bid-ask spread as the difference between the bid and ask quotes, divided by the average of the bid and ask quotes, which is the standard way of measuring percentage bid-ask spreads in the finance literature.<sup>39</sup> Exhibit-4 presents KBR's bid-ask spread data.
- 85. The average bid-ask spread for KBR common stock over the course of the Class Period was 0.03%. By comparison, the average month-end bid-ask spread over the course of the Class Period for all stocks in the CRSP database was 0.60%. 40
- 86. The KBR bid-ask spreads were substantially narrower than the mean level among all other CRSP stocks which comprises stocks traded on the NYSE, Amex, NASDAQ, and NYSE ARCA.
- 87. In dollar terms, the KBR bid-ask spread during the Class Period averaged \$0.01 per share. For all stocks in the CRSP database, the average bid-ask spread during the Class Period was \$0.12.41
- 88. The average bid-ask spread in the market for KBR stock over the course of the Class Period was well below the typical bid-ask spreads exhibited by other publicly-traded stocks in the United States. Thus, KBR's narrow bid-ask spread supports a conclusion of market efficiency.

<sup>&</sup>lt;sup>38</sup> Investments, by Zvi Bodie, Alex Kane, and Alan J. Marcus, 9th edition, 2011, p. 346.

<sup>&</sup>lt;sup>39</sup> "Price Reversals, Bid-Ask Spreads, and Market Efficiency," by Allen B. Atkins and Edward A. Dyl, *Journal of Financial and Quantitative Analysis*, Vol. 25, No. 4, 1990, pp. 535-547.

<sup>&</sup>lt;sup>40</sup> This calculation is based upon averaged month-end data from CRSP for September 30, 2013 through June 30, 2014.

<sup>&</sup>lt;sup>41</sup> Id.

### VII. EMPIRICAL EVIDENCE OF MARKET EFFICIENCY FOR KBR COMMON STOCK

89. Of the five *Cammer* factors, the empirical factor was cited by the *Cammer* court as "one of the most convincing ways to demonstrate efficiency":

"As previously noted, one of the most convincing ways to demonstrate efficiency would be to illustrate over time, a cause and effect relationship between company disclosures and resulting movements in stock price." *Cammer*, 711 F. Supp. at 1291.

- 90. The importance the *Cammer* Court placed on the empirical factor is justified by economic principles, as the empirical factor focuses on the essence of market efficiency whereas the other four factors are indicators that generally signal market efficiency.
- 91. I conducted two sets of empirical tests of the efficiency of the market for KBR common stock during the Class Period.
- 92. The first empirical test was an event study that investigates whether the market for KBR common stock was efficient specifically with respect to the particular information at issue in this case. Significant reactions to disclosures of information related to the alleged misrepresentations and omissions in this case indicate market efficiency, not only generally, but also specifically with respect to the information at issue in this case.
- 93. The second set of tests collectively examines a broad set of events that occurred over the course of the full year that ends with the Class Period. The events tested during this estimation period were all earnings and guidance announcements. These tests address whether KBR common stock exhibited market efficiency by examining whether the common stock responded to the increased flow of information that generally transpires on earnings and guidance announcement dates.
- 94. I examined earnings and guidance announcements collectively by using an F-test and an Ansari-Bradley volatility test. These tests compare the behavior of the price of KBR common stock on the group of earnings and guidance dates to the behavior of the stock price on all other dates in the estimation period (which includes the Class Period), to determine whether the stock price reacts to the greater flow of Company-specific information that the finance literature states generally transpires on earnings and guidance announcement dates, as compared to all other dates. A pattern of greater

dispersion and larger stock price movements on earnings and guidance announcement dates indicates market efficiency.

#### A. Event Study Tests of Market Efficiency

95. The event study is the paramount tool for testing market efficiency, as renowned financial economist and Nobel laureate Eugene Fama attests:

"The cleanest evidence on market-efficiency comes from event studies, especially event studies on daily returns. When an information event can be dated precisely and the event has a large effect on prices, the way one abstracts from expected returns to measure abnormal daily returns is a second-order consideration. As a result, event studies give a clear picture of the speed of adjustment of prices to information."

"Efficient Capital Markets: II," by Eugene F. Fama, Journal of Finance, 1991, p. 1607.

- 96. Event study analysis is one of the most commonly used analytic methodologies employed by finance researchers. Campbell, Lo, and MacKinlay [1997] present an excellent description and examples of the methodology and write about how it is generally accepted and widely used in academic research.<sup>42</sup> Crew, et al., [2012] write about how the methodology is generally accepted and widely used in forensic applications.<sup>43</sup>
- 97. An event study measures how much a stock price rises or falls in response to new, company-specific information. Statistical regression analysis determines how much of a stock price change is explained by market and peer group factors, rather than company-specific information, so that those influences can be statistically factored out. The portion of a stock price change that cannot be attributable to market and peer group factors is called the residual stock price movement or "residual return." The event study isolates the residual return and also tests whether the residual return can reasonably be explained as merely a random fluctuation.

<sup>&</sup>lt;sup>42</sup> Chapter 4 of *The Econometrics of Financial Markets*, by John Y. Campbell, Andrew W. Lo, and A. Craig MacKinlay, Princeton University Press, 1997.

<sup>&</sup>lt;sup>43</sup>"Federal Securities Acts and Areas of Expert Analysis," by Nicholas I. Crew, et al., in Chapter 24 of the *Litigation Services Handbook*; *The Role of the Financial Expert*, 5th ed., edited by Roman L. Weil, Daniel G. Lentz, and David P. Hoffman, John Wiley & Sons, Inc., 2012.

98. If the stock return following an event period is statistically significant, it indicates that the stock price movement cannot be attributed to market and peer group factors, or to random volatility, but rather was caused by the new, company-specific information. Such proof of a cause and effect relationship between the dissemination of information and a reaction in the stock price establishes market efficiency.

#### 1. A Caveat About Non-Significant Stock Price Movements

- 99. It is important to note that an event study tests the joint hypothesis that the security trades in an efficient market and that the valuation impact of the information disseminated on the event date is of such a large magnitude as to exceed the threshold for statistical significance. A finding of statistical significance indicates market efficiency, but a finding of non-significance does not necessarily establish inefficiency as a modest non-significant stock price reaction may be the efficient stock price reaction to a particular disclosure.<sup>44</sup>
- 100. For example, if a company reports earnings that are in-line with the expectations of analysts and investors, even though the announcement would be important, the mix of information may not have changed sufficiently on that date to elicit a statistically significant stock price reaction. Similarly, if a misrepresentation is made alongside countervailing confounding news that impacts the stock price in the opposite direction, one might not reasonably expect this mix of new information to cause a statistically significant stock price reaction. In these examples, a modest stock price movement or even no movement at all may be the appropriate stock price reaction. In such cases, the event study finding that the stock return was non-significant would not indicate inefficiency. In fact, in such cases, the non-significant stock price movement would show that the stock is behaving as it should in an efficient market.

<sup>&</sup>lt;sup>44</sup> "Event Studies In Securities Litigation: Low Power, Confounding Effects, And Bias," by Alon Brav and J.B. Heaton, working paper, March 30, 2015, p. 20.

- 101. Similarly, when a company deceives analysts and investors by concealing important information, the effect of the concealment would generally not be a significant stock price movement at the time of the concealment and over its duration. The concealment would maintain the mix of information as it previously was, so the appropriate price reaction would be a maintenance of the price level where it previously was.
- 102. Therefore, appropriate candidate events for inclusion in a market efficiency event study are events on which company-specific information was released that is new, unexpected, not confounded by countervailing news, and is of such import as to reasonably be expected to elicit a stock price reaction over the threshold for statistical significance.

#### 2. Selection of Allegation-Related Events

103. Not only did the *Cammer* Court single out the empirical factor as "one of the most convincing ways to demonstrate efficiency," but it also recognized the special importance of the specific information allegedly misrepresented that is the subject of the litigation:

"The central question under the fraud on the market theory is whether the stock price, at the time a plaintiff effected a trade, reflected the 'misinformation' alleged to have been disseminated."

Cammer, 711 F. Supp. at 1282 (emphasis in original).

- 104. By focusing an event study on disclosures of information related to the allegations in the Complaint, one is able to ascertain whether the market for KBR stock was efficient, not only generally, but also with respect to the particular information at issue in this case. Consequently, the empirical behavior of KBR common stock following the disclosure of allegation-related information best determines whether the market for KBR common stock was efficient for purposes of the fraud-on-the-market principle.
- 105. A comprehensive identification of all dates on which disclosures of new, Company-specific information corrected the alleged misrepresentations and omissions is beyond the scope of this report. However, a review of publicly reported news and events during the Class Period, and a review of the Complaint, identify four dates on which new, Company-specific information related to the alleged misrepresentations and omissions was disseminated, which, based on valuation principles, would reasonably be expected to

elicit a stock price reaction over the threshold for statistical significance. <sup>45</sup> Applying these criteria (disclosure of allegation-related information; information of such magnitude as to reasonably be expected to elicit a significant stock price reaction if the market is efficient) identifies the events that are most suitable for a market efficiency event study in this matter.

- 106. Using these criteria, I identified four event dates during the Class Period that are appropriate for inclusion in a market efficiency event study: February 27, 2014, May 5, 2014, June 19, 2014, and July 31, 2014. The disclosures on these dates include the following information:
  - February 27, 2014 after the close of trading, KBR announced Q4 and FY 2013 financial results and issued guidance for FY 2014.<sup>46</sup> Both the Company's financial results and guidance were below consensus expectations.
  - ii. **May 5, 2014** KBR announced that it would be restating its financial results for FY 2013 and withdrew its financial guidance for 2014.<sup>47</sup>
  - June 19, 2014 KBR announced its financial results for Q1 2014 which,
     among other things, included a \$41 million charge related to the Company's
     Canadian pipe fabrication business. 48

<sup>&</sup>lt;sup>45</sup> In addition to these four dates, I also identified May 30, 2014 as an allegation-related event. On May 30, 2014, the Company announced the completion of its restatement previously announced on May 5, 2014 ("Press Release: KBR Announces Completion of Restatement," *Dow Jones*, May 30, 2014, 5:59 PM). However, the restatement that occurred on May 30, 2014 was in line with the Company's projected restatement announced on May 5, 2014. As such, the information contained in the May 30, 2014 announcement would not reasonably have been expected to elicit a stock price reaction over the threshold for statistical significance and would not be considered a suitable event for the purposes of a market efficiency event study.

<sup>&</sup>lt;sup>46</sup> "Press Release: KBR Announces Fourth Quarter and Annual 2013 Financial Results," *Dow Jones*, Company press release, February 27, 2014, 4:25 PM.

<sup>&</sup>lt;sup>47</sup> "Press Release: KBR, Inc. Announces Intention to Restate Consolidated Financial Statements for the Year 2013," *Dow Jones*, Company press release, May 5, 2014, 8:00 AM.

<sup>&</sup>lt;sup>48</sup> "KBR, Inc. Announces First Quarter 2014 Financial Results," *Thomson Reuters*, Company press release, June 19, 2014, 8:00 AM.

- iv. July 31, 2014 KBR announced its financial results for Q2 2014 which, among other things, included another \$41 million charge related to the Company's Canadian pipe fabrication and module assembly business.<sup>49</sup>
- 107. Because the announcement on February 27, 2014 was after the close of trading, the corresponding trading day on which the new information would impact KBR's stock price would have been February 28, 2014. Consequently, for testing purposes, the event date is February 28, 2014.

#### 3. Isolating the Impact of Company-Specific Information

- 108. Event study analysis determines how much of the Company's stock return following each of the events was driven by Company-specific information as opposed to market and peer group factors.
- 109. The method, which is generally accepted and widely used in econometric modeling, involves running a regression to determine how the price of KBR common stock typically behaved in relation to the overall stock market and its peer group, and then using the regression model to determine how much of each event day's actual return is explained by the market and peer group factors ("the explained return").
- 110. The explained return is then subtracted from the actual return to isolate the residual return, which is the stock's return after controlling for market and peer group effects.
- 111. I ran a regression modeling the return of KBR common stock as a function of: 1) a constant term, 2) the returns of the overall stock market, and 3) a peer group index return.
- 112. For the overall stock market factor I used the CRSP NYSE/AMEX/NASDAQ/ARCA Market Index (the "Market Index"), which is a generally accepted and widely used measure of the overall stock market performance. The Market Index appropriately incorporates payment of dividends by the constituent companies.

<sup>&</sup>lt;sup>49</sup> "KBR, Inc. Announces Second Quarter 2014 Financial Results," *Thomson Reuters*, Company press release, July 31, 2014, 8:00 AM.

- 113. For the peer group factor, I used the same collection of companies that KBR identified as representative of its peers. In its 2013 Annual Report, KBR compared its performance to the Dow Jones Heavy Construction Index (the "Peer Index"). 50
- 114. KBR Inc.'s stock prices, dividends, trading volume, and returns are shown in Exhibit-4.

  Market Index and Peer Index data are presented in Exhibit-5.
- 115. I ran the regression on daily returns covering one full year ending on the last day of the Class Period, from July 31, 2013 through July 30, 2014 ("Estimation Period").<sup>51</sup> I used dummy variables to control for potentially abnormal returns on allegation-related disclosure event dates and on earnings and guidance announcement event dates. Using dummy variables to control for potentially important events in the estimation (control) period, especially when those dates are the subject of the event study analysis, so that the model parameters properly reflect typical stock price dynamics, is a widely used and generally accepted methodology, as noted in the academic and finance literature.<sup>52</sup>
- 116. The choice of using one full year ending on the last day of the Class Period for the regression Estimation Period is also a widely used and generally accepted methodology in event study analysis.

<sup>&</sup>lt;sup>50</sup> KBR, Inc., Form 10-KA for the Fiscal Year Ended December 31, 2013, filed May 30, 2014, p. 26.

<sup>&</sup>lt;sup>51</sup> To determine whether my results are robust to a choice of alternative estimation period, I ran a separate regression on daily returns covering one full year ending on the last day before the start of the Class Period. The results of this test confirm that my conclusions are robust to choice of estimation period.

<sup>&</sup>lt;sup>52</sup> See: "Event Studies with a Contaminated Estimation Period," by Nihat Aktas, Eric de Bodt, and Jean-Gabriel Cousin, *Journal of Corporate Finance*, 2007; "Measuring the Effects of Regulation with Stock Price Data," by John J. Binder, *The RAND Journal of Economics*, 1985; "Intervention Analysis with Applications to Economic and Environmental Problems," by G. E. P. Box and G. C. Tiao, *Journal of the American Statistical Association*, 1975; "Testing for Market Efficiency: A Comparison of the Cumulative Average Residual Methodology and Intervention Analysis," by David F. Larcker, Lawrence A. Gordon and George E. Pinches, *Journal of Financial & Quantitative Analysis*, 1980; "Measuring Abnormal Performance: The Event Parameter Approach Using Joint Generalized Least Squares," by Paul H. Malatesta, *The Journal of Financial and Quantitative Analysis*, 1986; "Conditioning the Return-Generating Process on Firm-Specific Events: A Discussion of Event Study Methods," by Rex Thompson, *The Journal of Financial and Quantitative Analysis*, 1985.

"Three general choices for the placement of an estimation window are before the event window, surrounding the event window, and after the event window."

"Materiality and Magnitude: Event Studies in the Courtroom," by David I. Tabak and Frederick C. Dunbar in *Litigation Services Handbook, The Role of the Financial Expert*, 3rd ed., edited by Roman L. Weil, Michael J. Wagner, and Peter B. Frank, John Wiley & Sons, Inc., 2001, p. 19.5.

- 117. All returns used in the regression are logarithmic returns that is, the natural logarithm of the ratio of the current day's closing price plus dividends to the previous day's closing price. Logarithmic returns are commonly used in event studies and equity analysis.

  Analysts and researchers generally use logarithmic returns instead of percent price changes because of various computational advantages.<sup>53</sup>
- 118. The regression results are presented in Exhibit-6.
- 119. I computed the explained portion of the KBR common stock return on each event date by adding: 1) the estimated regression intercept term, 2) the respective day's Market Index return multiplied by the Market Index coefficient estimated by the regression, and 3) the respective day's Peer Index return multiplied by the regression Peer Index coefficient.
- 120. I then computed the residual return for each event date by subtracting the respective explained return from the actual return.

#### 4. *t*-Test

121. For each event, a statistical test called a *t*-test was conducted to determine whether the residual return of KBR stock was statistically significant. Statistical significance means that the event return, after controlling for the market and peer group effects, was of such large magnitude that it cannot be explained by random volatility, but alternatively must have been caused by Company-specific information. A *t*-test compares the residual return on an event date to the typical residual return exhibited over the regression estimation period. If the event date residual return is far greater (positively or negatively) than the

<sup>&</sup>lt;sup>53</sup> The Appendix presents the mathematical formula for the logarithmic return and a discussion of the measure.

- typical residual return, the t-test indicates that the residual return is statistically significant.54
- 122. The results of the event study are presented below and summarized in Exhibit-7.

#### В. **Event Study Results**

#### 1. February 28, 2014

- On February 27, 2014, after the markets closed, KBR announced financial results for O4 123. 2013 (quarter and fiscal year ended December 31, 2013) and provided guidance for FY 2014. The Company reported net income of \$27 million, or \$0.18 per diluted share, which was below consensus estimates of \$0.91 per share.<sup>55</sup>
- The Company's Q4 2013 financial results included a "\$17 million non-cash charge 124. associated with the accounting for foreign currencies occurring over the life of a project."56
- In its form 10-K for FY 2013, the Company disclosed that there was:<sup>57</sup> 125.

"Material weakness related to project reporting over the completeness and accuracy of estimates of revenues, costs and profit at completion for certain long- term construction projects with multiple currencies. We determined that a material weakness in internal control over financial reporting existed

<sup>56</sup> Id.

<sup>&</sup>lt;sup>54</sup> The test is called the *t*-test because it involves the computation of a *t*-statistic, which is the event day residual return divided by the standard deviation of residual returns from the control period, i.e., the regression estimation data comprising all other days. If the absolute value of the t-statistic is greater than the critical t-statistic value (1.96 for large samples), the likelihood that the residual return could have been caused by random volatility alone is less than 5%, which is generally accepted to be so unlikely that the random volatility explanation can be rejected, and the stock return for that day is deemed statistically significant.

<sup>55 &</sup>quot;Press Release: KBR Announces Fourth Quarter and Annual 2013 Financial Results," *Dow Jones*, Company press release, February 27, 2014, 4:25 PM.; Consensus estimates obtained from FactSet.

<sup>&</sup>lt;sup>57</sup> The Company filed an amended 10-K for fiscal year 2013 on May 30, 2014, in which it updated the disclosure of the material weakness as follows: "Material weakness related to project reporting over the completeness and accuracy of estimates of revenues, costs and profit at completion for certain long- term construction projects with multiple currencies. We determined that a material weakness in internal control over financial reporting existed within our Gas Monetization business segment since controls were not properly designed to determine that actual and estimated foreign currency effects were included in our estimates of revenues, costs and profit at completion for long- term construction contracts that contain multiple currencies. Additionally, our control to monitor the inclusion of foreign currency effects in our estimates of revenues, costs and profit at completion was not properly designed." (KBR, Inc. Form 10-KA for the Fiscal Year Ended December 31, 2013, filed May 30, 2014, p. 123.) See also, "KBR Announces Fourth Quarter and Annual 2013 Financial Results," "Press Release: KBR Announces Fourth Quarter and Annual 2013 Financial Results," Dow Jones, Company press release, February 27, 2014; and, "KBR - Q4 2013 Earnings Conference Call," Factset: callstreet, February 28, 2014.

since controls were not properly designed to determine that actual and estimated foreign currency effects were included in our estimates of revenues, costs and profit at completion for long- term construction contracts that contain multiple currencies. Additionally, our control to monitor the inclusion of foreign currency effects in our estimates of revenues, costs and profit at completion was not properly designed."

KBR, Inc. Form 10-K for the Fiscal Year Ended December 31, 2013, filed February 27, 2014, p. 111.

126. Reaction to the announcement from news media and analysts was negative, for example:

"KBR Inc. posted declining revenue for its 18th straight quarter, while its profit decreased 10% as it was also dragged down by various charges. Shares slumped nearly 10% after hours as the company's results and 2014 outlook missed expectations."

"KBR Profit Falls 10% as Revenue Continues Decline...," by Erin McCarthy, *The Wall Street Journal Online*, February 27, 2014.

"The quarter was filled with a host of charges including \$17M accounting for FX, \$20M on increased project costs (both in gas mon), \$13M in severance, \$13M legal settlement, and \$16M related to a change in percentage complete on an LNG project."

"Earnings First Blush," by Jamie Cook, et al., Credit Suisse, analyst report, February 27, 2014, p. 1.

"Sharply reduced current earnings. KBR recently reported disappointing financial results for the fourth quarter of 2013, and offered much lower than expected earnings guidance for 2014. The reported shortfall was due to project timing issues and several unusual non-cash charges."

"Sharply Reduced Earnings Outlook...," by John Rogers and Cory Mitchell, D.A. Davidson, analyst report, February 28, 2014, p. 1.

127. On February 28, 2014, KBR stock declined 14.53% (on a logarithmic return basis). The Market Index return on that date was 0.17% and the Peer Index return was -0.72%. Based on the regression model, the explained portion of the return on KBR stock was -0.68%. The difference between the actual return of -14.53% and the explained return of -0.68% is a residual return of -13.85%.

128. A residual return of -13.85% is an unusually large one-day decline for KBR common stock. That residual return is associated with a *t*-statistic value of -14.17, which indicates that the residual return was too severe to have been a random fluctuation. The likelihood of obtaining a residual return of this magnitude and associated *t*-statistic given that particular explanation is less than 1.05E-33 (virtually nil). Therefore, the stock return is deemed statistically significant.

#### 2. May 5, 2014

129. On May 5, 2014, KBR filed a form 8-K in which it announced, among other things, that it would be restating its financial results for the FY 2013 due to an estimated \$158 million charge related to cost estimation in its "Canadian pipe fabrication and module assembly contracts." The Company also withdrew its FY 2014 guidance.<sup>58</sup>

"In connection with the preparation of KBR, Inc.'s Form 10- Q for the three months ending March 31, 2014, we determined that the estimated costs to complete seven Canadian pipe fabrication and module assembly contracts within our Services business segment that were awarded during 2012-2013 will result in pre- tax charges of \$158 million, consisting of the reversal of \$23 million in previously recognized pre- tax profits and the recognition of approximately \$135 million in pre- tax estimated losses at completion." KBR, Inc., Form 8-K, filed May 5, 2014, Item 4.02.

130. Analysts reacted negatively to the news and lowered their price targets.

"We are lowering our KBR price target to \$26 from \$28 as we apply a lower multiple to our estimates to reflect uncertainty regarding this morning's announced overstatement of 2013 profitability, pending 2013 restatement, and uncertain impact to 2014 EPS results."

"KBR to Restate 2013 Financials," by Will Gabrieiski, Stephens, analyst report, May 5, 2014, p. 1.

<sup>&</sup>lt;sup>58</sup> KBR, Inc., Form 8-K, filed May 5, 2014, Item 4.02.

"2014 earnings risks. Although the company has not yet commented on earnings for the first quarter, the previously noted accounting errors suggest there are risks to the 2014 earnings prospects, based on additional project adjustments and/or costs to review and upgrade accounting systems. The company has withdrawn its previous guidance for EPS of \$1.75-\$2.10. We have been expecting EPS of \$2.00."

"Planned Charges/Delayed Reporting," by John Rogers, D.A. Davidson, analyst report, May 5, 2014, p. 1.

- 131. On May 5, 2014, KBR stock declined 6.43% (on a logarithmic return basis). The Market Index return on that date was 0.14% and the Peer Index return was -1.42%. Based on the regression model, the explained portion of the return on KBR stock was -1.31%. The difference between the actual return of -6.43% and the explained return of -1.31% is a residual return of -5.12%.
- 132. A residual return of -5.12% is an unusually large one-day decline for KBR common stock. That residual return is associated with a *t*-statistic value of -5.24, which indicates that the residual return was too severe to have been a random fluctuation. The likelihood of obtaining a residual return of this magnitude and associated *t*-statistic given that particular explanation is less than 3.50E-07 (virtually nil). Therefore, the stock return is deemed statistically significant.

#### 3. June 19, 2014

- 133. On June 19, 2014, KBR announced financial results for Q1 2014 (quarter ended March 31, 2014).<sup>59</sup> The Company reported a net loss of \$43 million, or \$0.29 per diluted share, and revenue of \$1.63 billion.<sup>60</sup> The Company's results were below consensus estimates of a profit of \$0.41 per share.<sup>61</sup>
- 134. Among other things, KBR disclosed that its "Services business segment recognized revisions in [its] estimates of losses at completion on [its] Canadian pipe fabrication and module assembly projects of \$41 million during the three months ended March 31, 2014."<sup>62</sup>

<sup>&</sup>lt;sup>59</sup> KBR, Inc., Form 8-K, filed June 19, 2014, Exhibit 99.1.

<sup>&</sup>lt;sup>60</sup> KBR, Inc., Form 10-Q for the Quarterly Period Ended March 31, 2014, filed June 19, 2014, p. 4.

<sup>&</sup>lt;sup>61</sup> Consensus estimates obtained from FactSet.

<sup>&</sup>lt;sup>62</sup> KBR, Inc., Form 10-Q for the Quarterly Period Ended March 31, 2014, filed June 19, 2014, p. 12.

- 135. Analysts were negatively surprised and lowered their price targets, for example:
  - "Disappointing financial start to 2014. KBR reported a first quarter loss of \$0.29 per share, substantially below our expectations due to project losses and other operating issues...We have lowered our price target to \$30 from \$38 based on our revised expectations."
  - "First Quarter Shortfall Dampens Outlook...," by John B. Rodgers, D.A. Davidson, analyst report, June 20, 2014, p. 1.
  - "KBR reported 1Q14 EPS of (\$0.29)/share versus consensus of \$0.39 and our \$0.47 estimate. While the company did report an LNG project closeout that we expected to boost 1Q results, this was more than offset by continued major losses from its Service segment's Canadian pipe fabrication/modular assembly contracts (\$41MM) and other charges."
  - "1Q14 Results Miss Strategic Review Commences," by Daniel W. Scott and Bryan C. Bergin, Cowen and Company, analyst report, June 19, 2014, p. 1.
- 136. On June 19, 2014, KBR stock declined 7.33% (on a logarithmic return basis). The Market Index return on that date was 0.16% and the Peer Index return was 0.13%. Based on the regression model, the explained portion of the return on KBR stock was 0.09%. The difference between the actual return of -7.33% and the explained return of 0.09% is a residual return of -7.42%.
- 137. A residual return of -7.42% is an unusually large one-day decline for KBR common stock. That residual return is associated with a *t*-statistic value of -7.59, which indicates that the residual return was too severe to have been a random fluctuation. The likelihood of obtaining a residual return of this magnitude and associated *t*-statistic given that particular explanation is less than 6.63E-13 (virtually nil). Therefore, the stock return is deemed statistically significant.

#### 4. July 31, 2014

- 138. On July 31, 2014, KBR announced financial results for Q2 2014 (quarter ended June 30, 2014) and held a conference call with investors.<sup>63</sup> The Company reported a net loss of \$8 million, or \$0.06 per diluted share, which was below consensus estimates of a profit of \$0.34 per share.<sup>64</sup>
- 139. KBR disclosed, among other things, that it took another \$41 million charge related to its Canadian pipe fabrication and module assembly projects. <sup>65</sup> During the conference call, Barclays analyst Andrew Kaplowitz asked the Company's CFO Brian Ferraioli about the performance of the Company's Canadian operation.

"[Brian Ferraioli, KBR's CFO]: The difference is that the scope of work is defined by drawings that we receive from our clients. On the remaining contracts, the majority of the drawings have now been received from the clients and therefore we're able to do the takeoffs to understand exactly what the scope of work is. So, when the quantity of work increases, based upon drawings, that's what's driving the results for this quarter. So, as it was really impossible for anyone to be able to predict what the scope of work will be when you don't have the drawings that are issued for construction in-house."

"KBR - Q2 2014 Earnings Conference Call," Factset: callstreet, July 31, 2014, p. 9.

140. Analysts reacted negatively to the news and lowered their price targets.

"KBR's second quarter 2014 results were lower than expected, mainly due to the timing of transition on large LNG projects and greater-than expected incremental costs to complete Canadian module fabrication projects." "Strategic Review Underway, but Lack of Earnings Visibility Likely Keeps Shares Range-Bound," by Chase Jacobson and Paul Dircks, William Blair, analyst report, July 31, 2014, p. 1.

<sup>&</sup>lt;sup>63</sup> KBR, Inc., Form 8-K, filed July 31, 2014, Exhibit 99.1; "KBR – Q2 2014 Earnings Conference Call," *Factset: callstreet*, July 31, 2014.

<sup>&</sup>lt;sup>64</sup> KBR, Inc., Form 10-Q for the Quarterly Period Ended June 30, 2014, filed July 31, 2014, p. 4; Consensus estimates obtained from FactSet.

<sup>&</sup>lt;sup>65</sup> Id., p. 12.

"KBR reported 2Q14 net loss per share of \$0.06 versus our EPS estimate of \$0.19 and the consensus estimate of \$0.24. 2Q14 results were negatively impacted by further losses on Canadian pipe fabrication and module assembly work in the Services segment. We are lowering our target price to \$25 from \$28 and maintain our EW rating on KBR shares."

"KBR 2Q14 Results Disappoint; Maintain EW," by Martin W. Malloy, Johnson Rice & Company, analyst report, July 31, 2014, p. 1.

"The scope of losses on its troubled fab contracts is said to be better understood upon receipt/review of drawings for all, though mgmt. noted it still must properly execute 3 additional assemblies, so some risk remains ... Services results were down substantially and the company generated a loss in this segment of -\$40M due to -\$41M in losses at its Canadian fabrication operations."

"2Q Misses on Charges, Though Mgmt. Upbeat on Bookings Prospects," by Luke Folta, Jefferies, analyst report, July 31, 2014, p. 1 and p. 2.

- 141. On July 31, 2014, KBR stock declined 7.01% (on a logarithmic return basis). The Market Index return on that date was -1.98% and the Peer Index return was -2.89%. Based on the regression model, the explained portion of the return on KBR stock was -2.81%. The difference between the actual return of -7.01% and the explained return of -2.81% is a residual return of -4.20%.
- 142. A residual return of -4.20% is an unusually large one-day decline for KBR common stock. That residual return is associated with a *t*-statistic value of -4.29, which indicates that the residual return was too severe to have been a random fluctuation. The likelihood of obtaining a residual return of this magnitude and associated *t*-statistic given that particular explanation is less than 2.53E-05. Therefore, the stock return is deemed statistically significant.

# 5. <u>Allegation-Related Event Study Summary</u>

143. The event study shows that for all of the events identified as appropriate candidates for inclusion in an allegation-related market efficiency event study, there was a strongly statistically significant price reaction to new Company-specific news. This finding proves not only that the market for KBR stock was efficient, but also that it was efficient specifically with respect to the information at issue in this case.

144. The event study discussed herein is essentially a controlled experiment that allows one to observe the market's valuation of the stock with and without the information at issue. Prior to an event, the stock is valued in the marketplace without the new information. After the event, the stock is valued with the newly-released information. The significant stock price changes elicited by the four allegation-related disclosures reflect the effect of that information.

# C. Empirical Tests Conducted on Earnings and Guidance Announcement Events

- 145. In addition to assessing market efficiency by observing whether the stock price reacted appropriately on important news event dates individually, one can also test for market efficiency by assessing collectively whether the stock generally moves more on days with greater information flow than on more typical days with less news. That is, if the stock price movements are generally greater among a collection of news days than among all other non- or lesser news days, this result would establish that there is a cause and effect relationship between the flow of information and stock price movements, which indicates market efficiency.
- 146. I conducted collective empirical tests of market efficiency based on these principles. I focused the analysis on earnings and guidance announcements. A company's financial results and forecasts are among the most important considerations to investors assessing the value of its stock. While not every earnings and guidance announcement contains new, unexpected, highly valuation impactful information, the finance literature notes that such information more frequently arrives on earnings and guidance announcement dates than on ordinary dates.

"No other figure in the financial statements receives more attention by the investment community than earnings per share. The relationship between accounting earnings and security prices is probably the single most important relationship in security analysis, and its prominence is reflected in the attention given to price-earnings ratios."

Financial Reporting an Accounting Revolution, 3rd ed., William H. Beaver, 1998, p. 38.

- "Analysts, investors, senior executives, and boards of directors consider earnings the single most important item in the financial reports issued by publicly held firms."
- "Earnings Management to Exceed Thresholds," by Francois Degeorge, Jayendu Patel, and Richard Zeckhauser, *Journal of Business*, 1999, p. 1.
- 147. Numerous well-known and highly-regarded academic studies (for example, Beaver [1968], Ball and Brown [1968], Ball [1978], Watts [1978], Patell and Wolfson [1984], and Ball and Kothari [1991]) have specifically examined stock price movements caused by earnings and guidance announcements, and concur that earnings and guidance announcements are unusually important information events generally.
- 148. Consequently, a pattern of greater stock price movement on earnings and guidance announcement days as compared to all other days is indicative of market efficiency.
- 149. The following is a list of earnings and guidance announcements made during the Estimation Period:
  - i. October 24, 2013 After the close of trading, KBR reported financial results for Q3 2013 (quarter ended September 30, 2013).<sup>66</sup>
  - ii. **February 27, 2014** After the close of trading, KBR reported financial results for Q4 and FY 2014 (quarter and fiscal year ended December 31, 2013).<sup>67</sup>
  - iii. **May 5, 2014** KBR announced that it would be restating its financial results for FY 2013 and withdrew its financial guidance for 2014.<sup>68</sup>
  - iv. **June 19, 2014** KBR reported financial results for Q1 2014 (quarter ended March 31, 2014).<sup>69</sup>

<sup>&</sup>lt;sup>66</sup> "KBR Announces Earnings Per Diluted Share of \$0.16 for Third Quarter 2013," *Business Wire*, Company press release, October 24, 2013, 4:08 PM.

<sup>&</sup>lt;sup>67</sup> "KBR Announces Fourth Quarter and Annual 2013 Financial Results," *Dow Jones*, Company press release, February 27, 2014, 4:25 PM.

<sup>&</sup>lt;sup>68</sup> "Press Release: KBR, Inc. Announces Intention to Restate Consolidated Financial Statements for the Year 2013," *Dow Jones*, Company press release, May 5, 2014, 8:00 AM.

<sup>&</sup>lt;sup>69</sup> "KBR, Inc. Announces First Quarter 2014 Financial Results," *Thomson Reuters*, Company press release, June 19, 2014, 8:00 AM.

- v. **July 31, 2014** KBR reported financial results for Q2 2014 (quarter ended June 30, 2014).<sup>70</sup>
- 150. Because the announcements on October 24, 2013 and February 27, 2014 were after the close of trading, for each of these events the trading day on which the new information would impact KBR stock price would have been October 25, 2013 and February 28, 2014, respectively. Consequently, for testing purposes, the event dates are October 25, 2013, February 28, 2014, May 5, 2014, June 19, 2014, and July 31, 2014. The event study results for the earnings announcement dates are presented in Exhibit-7.
- 151. There may have been additional valuation-relevant information aside from earnings information disseminated on these event dates to which the stock price reacted. Stock price reactions to such additional information would be further support of market efficiency.
  - 1. <u>High Frequency of Statistically Significant Price Movements on Earnings and Guidance Dates</u>
- 152. A cause and effect relationship between the release of information and reaction in the stock price is evident if there is a higher frequency of statistically significant events within a sample of dates on which there was a greater flow of new information, as compared to the ordinary frequency of statistically significant events within the control sample of typical days.
- 153. Specifically, in this case, if the frequency of significant price movements is statistically significantly greater for earnings and guidance announcement days than for ordinary days, the finding would indicate that the KBR stock price responds to the higher information flow on the event dates, demonstrating market efficiency.
- 154. By construction, approximately 5% of ordinary non-event dates during the Estimation Period have stock price movements of such magnitude as to appear to be statistically significant. By contrast, 5 of 5 earnings and guidance announcement event dates, 100%, exhibited statistical significance. This difference in frequencies is meaningful, significant, and indicates market efficiency.

<sup>&</sup>lt;sup>70</sup> "KBR, Inc. Announces Second Quarter 2014 Financial Results," *Thomson Reuters*, Company press release, July 31, 2014, 8:00 AM.

- 155. Under a null hypothesis that KBR stock does not behave any differently on earnings and guidance announcement event dates than on ordinary days, there would be only a 5% probability that any such individual event would elicit a statistically significant stock price reaction at the 95% confidence level. Under this hypothesis that the stock behaves no differently on event dates than on ordinary days, the probability that 5 of 5 such events would be statistically significant is less than 1 in 3 million. This probability is assessed using a binomial distribution, computing the likelihood of 5 out of 5 positive results (of individual statistical significance) where a positive result has a probability of 5% and a negative result has a probability of 95%.<sup>71</sup>
- 156. The result that 5 of the 5 earnings and guidance announcement events were statistically significant would have a probability of less than 0.000032% if the market were not efficient such that the stock price movements were caused by random volatility alone, rather than as efficient reactions to new information.
- 157. Therefore, based on the finding that 5 of the 5 event dates were indeed statistically significant, we can conclude that KBR's stock did respond to the news disseminated on earnings and guidance announcement dates, demonstrating market efficiency throughout the Class Period.

# 2. <u>F-Test and Ansari-Bradley Test Analyses of Event Return</u> Dispersion

- 158. Announcements of financial results sometimes constitute unexpected good news and sometimes constitute unexpected bad news. In an efficient market, the stock would rise after unexpected good news and fall after unexpected bad news. Therefore, there would be a wider dispersion of returns on earnings and guidance announcement dates, as compared to ordinary days, as long as some of the announcements contained some unexpected good or bad news.
- 159. It follows that if the dispersion of KBR stock returns on earnings and guidance announcement days was significantly greater than the dispersion of KBR stock returns on all other days in the Estimation Period, this finding would further demonstrate that the

<sup>&</sup>lt;sup>71</sup> For more explanation about this test and computation, see for example, *Introduction to Mathematical Statistics*, by Robert V. Hogg, Joseph W. McKean, and Allen T. Craig, 6th Edition, Pearson Prentice Hall, 2005, pp. 133-134.

- stock price reacted to news over the course of the Estimation Period (which includes the Class Period), which establishes market efficiency. I ran an F-test and Ansari-Bradley test to determine whether this is the case. These tests focus on return dispersion.
- 160. I ran both tests on the residual returns for KBR common stock, that is, the computed portion of the stock returns remaining after controlling for the impact of market and peer group effects. Running the tests on residual returns focuses the tests more precisely on the effects of Company-specific information on the Company stock price.

#### a. F-Test

- 161. The sample standard deviation of the earnings and guidance announcement days' residual returns was 3.98%. The sample standard deviation of all other days' returns was 0.97%. Clearly, the earnings and guidance announcement days' sample standard deviation was far greater than the sample standard deviation for all other days over five times greater.
- 162. An F-test assesses whether the difference between the two sample standard deviations is statistically significant, or alternatively, a potentially random result. The F-statistic for these two samples is 16.7 which is greater than the 95% confidence level critical F-statistic value of 2.4 (with 4 and 247 degrees of freedom), indicating that the difference in sample standard deviations is statistically significant and meaningful.
- 163. The F-test finds that the dispersion of earnings and guidance announcement days' returns is significantly greater than the dispersion of returns for all other days. This result demonstrates that the price of KBR common stock moved more on earnings and guidance announcement days than on other days. This statistical result indicates that there was a cause and effect relationship between the release of new information and reactions in the KBR common stock price, which therefore establishes that KBR common stock traded in an efficient market.

# b. Ansari-Bradley Test

- 164. The Ansari-Bradley test is another test that determines whether or not two data samples have significantly different dispersions, which, as discussed above, when applied to a sample of earnings and guidance announcement dates, in comparison to all other dates, would indicate market efficiency. The Ansari-Bradley test is a well-regarded and generally accepted test for comparing sample dispersions and is presented and described in numerous authoritative textbooks.<sup>72</sup>
- 165. Applied to the earnings event returns and the sample of all other returns observed during the Class Period, the Ansari-Bradley test, like the F-test, finds with an extremely high degree of statistical certainty that the dispersion of earnings event returns was significantly greater than the dispersion of returns on all other days. The Ansari-Bradley C-statistic for the two samples of KBR stock residual returns is 3.75, which is greater than the critical C-statistic threshold of 1.65 for significance at the 95% confidence level.<sup>73</sup> This result is further proof that the price of KBR common stock moved more on earnings and guidance announcement days than on other days during the Estimation Period and the Class Period.
- 166. This statistical test result indicates that there was a cause and effect relationship between the release of new, Company-specific information and reactions in the KBR common stock price, which therefore further supports that KBR common stock traded in an efficient market during the Class Period.

<sup>&</sup>lt;sup>72</sup> For example: "Rank-Sum Tests For Dispersions," *Annals of Mathematical Statistics*, 31, by A.R. Ansari and R. A. Bradley, 1960, 1174-1189; *Applied Nonparametric Statistical Methods*, 4<sup>th</sup> Edition, by Peter Sprent and Nigel Smeeton, 2007, pp. 170-178; *Applied Nonparametric Statistics*, by Wayne W. Daniel, Houghton Mifflin, 1978, pp. 103-107; *Nonparametric Statistical Methods*, by Wolfe Hollander, John Wiley & Sons, 1973, pp. 142-158; *Beyond ANOVA: Basics of Applied Statistics*, by Rupert, G. Miller, Jr., John Wiley & Sons, 1986, pp. 266-278;

<sup>&</sup>lt;sup>73</sup> The Ansari-Bradley critical C-statistic threshold of 1.65 indicates statistical significance at the 95% confidence level for a one-tailed test. Here the critical test statistic is for a one-tailed test because the question at issue is whether event dates have *greater* volatility than nonevents.

#### VIII. MARKET EFFICIENCY SUMMARY

- 167. KBR common stock traded on the NYSE stock exchange where its trading was facilitated by many market makers. The Company enjoyed coverage by numerous equity analysts. Institutional ownership of KBR stock was widespread. Trading was very active as indicated by high volume and weekly turnover. Market capitalization and float were high. The stock's bid-ask spread was narrower than the average for all other stocks listed on American exchanges. With the exception of brief periods during which the Company's financial filings were delayed, for reasons related to the alleged fraud in this case, the Company satisfied the conditions for S-3 registration eligibility. Nonetheless, throughout the Class Period financial information about the Company was readily available to investors and analysts.
- 168. Not only did the market for KBR common stock satisfy the *Cammer* and *Unger/Krogman* factors that indicate market efficiency (with the noted temporary exception of S-3 registration eligibility), but it also satisfied the empirical *Cammer* factor, which demonstrates the essence of market efficiency. The empirical tests proved that there was a cause and effect relationship between new material information and appropriate movements in the KBR stock price.
- 169. Given these facts, I conclude that KBR common stock traded in an efficient market over the course of the Class Period.

# IX. PER SHARE DAMAGE METHODOLOGY

- 170. Lead Plaintiffs' counsel asked me to opine on whether per share out-of-pocket damages could be measured for each Class member under Section 10(b) of the Exchange Act using a common methodology for all Class members.
- 171. It should be noted that I have not conducted a loss causation analysis at this time and reserve the right to address such issues at the appropriate stage. The loss causation analysis that will be necessary to actually calculate damages in the current case requires the full development of the record.

Nonetheless, the methodology discussed herein allows the calculation of individual and class-wide damages stemming from various alleged misrepresentations and omissions and therefore will accommodate alternative potential determinations of liability.

Economic analysis can be used to estimate the relationship between specific statements or sets of statements and the subsequent effect on prices, in the case of affirmative statements, omissions, and/or corrective disclosures. As such, class-wide damages in response to the specific misrepresentations and omissions ultimately established by Plaintiffs can be calculated in a straightforward manner common to all Class members. Out-of-pocket damages will be measured as the difference between the amount of share price inflation at purchase and the amount of inflation in the share price at the sale.

# A. Section 10(b) Per Share Damage Methodology

- 173. Assuming a Lead Plaintiffs verdict on the allegations of fraud, Section 10(b) per share damages can be measured as follows:
  - i. First, valuation tools, which would include event study analysis such as that described herein, and potentially other empirical analyses if necessary, would be used to establish that the disclosure(s), correcting the alleged misrepresentations and omissions, caused the price of KBR common stock to fall. This analysis, after controlling for potentially non-fraud-related information, would establish that the alleged misrepresentations and omissions had caused the stock price to be artificially inflated, and that the corrective disclosures caused the inflation to dissipate, in turn causing investor losses. This analysis would be used to measure the effect of a disclosure(s) on the Company's stock and would apply on a class-wide basis.
  - ii. Second, an inflation ribbon would be constructed, indicating how much artificial inflation caused by the alleged misrepresentations and omissions was in the price of KBR common stock on each day during the Class Period. An inflation ribbon is a time series of the difference between the actual stock price observed in the marketplace, and the estimated price that the stock would have traded at each day had there been full disclosure from the outset of the Class Period. Construction of the inflation ribbon generally employs

event study analysis, combined with widely used and generally accepted valuation tools and models. The inflation ribbon is often constructed by working chronologically backwards from the final corrective disclosure to the start of the Class Period, accounting for the alleged fraud-related residual price declines as they occurred. Inflation prior to a corrective disclosure that dissipated inflation is greater than the inflation afterward by the amount of inflation that dissipated. Should it be determined that a disclosure(s) is not corrective, the methodology described herein can accommodate such a change and adjust per share damages accordingly. This analysis would also apply on a class-wide basis.

iii. Third, the measure of per share damages generally applied in 10b-5 cases is the reduction in the inflation ribbon over an investor's holding period (the economic/inflation loss). That is, for each Class member, per share damages would be calculated as the difference between the inflation on the date shares were purchased and the inflation on the date those same shares were subsequently sold. Per share damages are limited, however, to be no greater than the decline in share price over the holding period, which is the investment loss actually sustained. Pursuant to the Private Securities Litigation Reform Act of 1995 (the "PSLRA") (15 U.S.C. § 78u-4(e)), for any shares sold during the 90-day period after the end of the Class Period, per share damages would be calculated as the lesser of the reduction in the dollar inflation over the investor's holding period (the economic/inflation loss), or the decline in the stock price (the investment loss), where the terminal stock price is deemed to be the average price from the final corrective disclosure date to the sale date. Also pursuant to the PSLRA, for any shares held 90 days or more beyond the final corrective disclosure, damages would equal the lesser of the reduction in the dollar inflation over the investor's holding period (the economic/inflation loss) or the decline in the stock price (the investment loss), where the terminal stock price is deemed to be the average price over the 90 days following the final corrective disclosure. The calculation of each Class member's damages would be a mechanical arithmetical exercise,

conducted the same way for all Class members, applying the results of the Class-wide analyses described above to each Class member's trading data.

- 174. Consequently, each Class member's per share damages under Section 10(b) can be computed in the same way, common to all Class members, using readily available daily pricing information, in accordance with widely used and generally accepted methodologies and the PSLRA.
- 175. I have not yet been asked to calculate damages for any of the claims alleged on behalf of the class, and such calculations will likely depend, in part, on the completion of discovery. However, the methodology described above is generally accepted and widely used for calculating damages under Section 10(b) consistently on a Class-wide basis in securities class actions.

# X. <u>LIMITING FACTORS AND OTHER ASSUMPTIONS</u>

176. This report is furnished solely for the purpose of court proceedings in the above referenced matter and may not be used or referred to for any other purpose. The analysis and opinions contained in this report are based on information available as of the date of this report. I reserve the right to supplement or amend this report, including in the event additional information becomes available.

Steven P. Feinstein, Ph.D., CFA

#### XI. <u>APPENDIX: LOGARITHMIC RETURNS</u>

A-1. Logarithmic returns, rather than percent change returns are commonly used in stock return regressions and event study analysis and were used in the regression modeling here. The formula for a logarithmic return is:

$$R_{t} = \ln \left( \frac{P_{t} + d_{t}}{P_{t-1}} \right)$$

where:

 $R_t$  is the logarithmic return on day t;  $P_t$  is the stock price at the end of day t;  $P_{t-1}$  is the stock price from the previous day, day t-1;  $d_t$  is the dividend on day t, if any.

A-2. The formula for converting a logarithmic return into a dollar return is:

$$DR_t = P_{t-1} \cdot (e^{R_t} - 1)$$

where:

 $DR_t$  is the dollar return on day t;  $P_{t-1}$  is the stock price from the previous day, day t-1; e is natural e (approximately 2.7);  $R_t$  is the logarithmic return on day t.

- A-3. If a stock falls from \$20 to \$18, the percent change in price is -10%, equal to the \$2 decline divided by the original \$20 price. The logarithmic return, however, is -10.54%, equal to ln(\$18/\$20).
- A-4. The logarithmic return relates a price change to an average of the original, final, and intervening prices over the course of a price decline. As such, for large price declines, it is possible for a logarithmic price decline to exceed 100%, since the price decline may be greater than the average of the beginning and ending prices.
- A-5. An attractive feature of a logarithmic return is that it can be decomposed into contributing factors linearly. That is, the portion of a logarithmic return caused by company-specific information is isolated by subtracting from the total logarithmic return the portion of the total return caused by market and peer group factors.

#### **Documents and Other Information Reviewed and Relied Upon**

#### **CASE DOCUMENTS**

- Consolidated Class Action Complaint, dated October 20, 2014.
- Defendants' Motion to Dismiss Lead Plaintiffs' Consolidated Class Action Complaint, dated December 5, 2014.
- Memorandum Opinion and Order, dated September 3, 2015.

#### **NEWS ARTICLES/PRESS RELEASES**

- Factiva news articles (1,329) from March 11, 2013 to October 30, 2014, downloaded using the following search parameters: Sources Field: All Subjects; Company: KBR, Inc.; All Subjects; All Industries; All Regions.
- "KBR Announces Earnings Per Diluted Share of \$0.16 for Third Quarter 2013," *Business Wire*, Company press release, October 24, 2013, 4:08 PM.
- "Press Release: KBR Announces Fourth Quarter and Annual 2013 Financial Results," *Dow Jones*, February 27, 2014, 4:25 PM.
- "KBR Profit Falls 10% as Revenue Continues Decline...," by Erin McCarthy, *The Wall Street Journal Online*, February 27, 2014.
- "KBR Announces Fourth Quarter and Annual 2013 Financial Results," *Dow Jones*, Company press release, February 27, 2014, 4:25 PM.
- "Press Release: KBR, Inc. Announces Intention to Restate Consolidated Financial Statements for the Year 2013," *Dow Jones*, May 5, 2014, 8:00 AM.
- "Press Release: KBR Announces Completion of Restatement," *Dow Jones*, May 30, 2014, 5:59 PM.
- "KBR, Inc. Announces First Quarter 2014 Financial Results," *Thomson Reuters*, Company press release, June 19, 2014, 8:00 AM.
- "KBR, Inc. Announces Second Quarter 2014 Financial Results," *Thomson Reuters*, Company press release, July 31, 2014, 8:00 AM.

### **ANALYST REPORTS**

- CapitalOne, September 11, 2012.
- CapitalOne, September 27, 2012.
- CapitalOne, October 3, 2012.
- CapitalOne, October 12, 2012.
- DA Davidson, October 24, 2012.
- KeyBanc, October 24, 2012.

- CapitalOne, October 25, 2012.
- DA Davidson, October 25, 2012.
- Johnson Rice & Company, October 25, 2012.
- KeyBanc, October 26, 2012.
- CapitalOne, October 26, 2012.
- DA Davidson, October 29, 2012.
- CapitalOne, November 5, 2012.
- CapitalOne, November 13, 2012.
- CapitalOne, November 20, 2012.
- CapitalOne, December 18, 2012.
- CapitalOne, December 27, 2012.
- CapitalOne, January 10, 2013.
- DA Davidson, January 10, 2013.
- KeyBanc, January 11, 2013.
- CapitalOne, January 11, 2013.
- DA Davidson, January 11, 2013.
- Johnson Rice & Company, January 11, 2013.
- CapitalOne, January 14, 2013.
- KeyBanc, January 16, 2013.
- CapitalOne, January 16, 2013.
- KeyBanc, January 29, 2013.
- KeyBanc, February 20, 2013.
- Johnson Rice & Company, February 20, 2013.
- CapitalOne, February 21, 2013.
- DA Davidson, February 21, 2013.
- CapitalOne, February 22, 2013.
- Johnson Rice & Company, February 22, 2013.
- KeyBanc, February 22, 2013.
- CapitalOne, April 4, 2013.
- CapitalOne, April 17, 2013.
- KeyBanc, April 17, 2013.
- DA Davidson, April 25, 2013.
- KeyBanc, April 25, 2013.
- Johnson Rice & Company, April 25, 2013.
- CapitalOne, April 26, 2013.
- DA Davidson, April 26, 2013.
- Johnson Rice & Company, April 26, 2013.
- CapitalOne, April 29, 2013.
- KeyBanc, April 29, 2013.

- CapitalOne, May 22, 2013.
- CapitalOne, June 25, 2013.
- UBS, July 7, 2013.
- CapitalOne, July 18, 2013.
- CapitalOne, July 19, 2013.
- Sterne Agee CRT, July 25, 2013.
- Credit Suisse, July 25, 2013.
- William Blair, July 25, 2013.
- KeyBanc, July 25, 2013.
- UBS, July 25, 2013.
- DA Davidson, July 25, 2013.
- Johnson Rice & Company, July 25, 2013.
- BB&T, July 26, 2013.
- Deutsche Bank, July 26, 2013.
- Macquarie, July 26, 2013.
- UBS, July 26, 2013.
- CapitalOne, July 26, 2013.
- DA Davidson, July 26, 2013.
- Sterne Agee CRT, July 28, 2013.
- KeyBanc, July 28, 2013.
- William Blair, July 29, 2013.
- Credit Suisse, July 29, 2013.
- CapitalOne, July 29, 2013.
- Johnson Rice & Company, July 29, 2013.
- KeyBanc, July 30, 2013.
- CapitalOne, July 30, 2013.
- BB&T, August 16, 2013.
- Johnson Rice & Company, August 29, 2013.
- CapitalOne, September 4, 2013.
- KeyBanc, September 5, 2013.
- Credit Suisse, September 5, 2013.
- CapitalOne, September 6, 2013.
- DA Davidson, September 6, 2013.
- DA Davidson, September 26, 2013.
- Deutsche Bank, September 27, 2013.
- CapitalOne, September 27, 2013.
- KeyBanc, September 27, 2013.
- KeyBanc, October 14, 2013.
- CapitalOne, October 14, 2013.

- Barclays, October 22, 2013.
- Sterne Agee CRT, October 24, 2013.
- KeyBanc, October 24, 2013.
- William Blair, October 24, 2013.
- Deutsche Bank, October 24, 2013.
- Credit Suisse, October 24, 2013.
- UBS, October 24, 2013.
- Johnson Rice & Company, October 24, 2013.
- DA Davidson, October 24, 2013.
- Deutsche Bank, October 25, 2013.
- Credit Suisse, October 25, 2013.
- Macquarie, October 25, 2013.
- BB&T, October 25, 2013.
- Jefferies, October 25, 2013.
- CapitalOne, October 25, 2013.
- DA Davidson, October 25, 2013.
- KeyBanc, October 27, 2013.
- Sterne Agee CRT, October 28, 2013.
- Barclays, October 28, 2013.
- William Blair, October 28, 2013.
- Credit Suisse, October 28, 2013.
- BB&T, October 28, 2013.
- Jefferies, October 28, 2013.
- CapitalOne, October 28, 2013.
- Johnson Rice & Company, October 28, 2013.
- KeyBanc, October 28, 2013.
- CapitalOne, October 29, 2013.
- Credit Suisse, December 16, 2013.
- KeyBanc, December 17, 2013.
- Barclays, December 20, 2013.
- KeyBanc, December 30, 2013.
- DA Davidson, January 2, 2014.
- Stephens Inc., January 3, 2014.
- UBS, January 7, 2014.
- BB&T, January 10, 2014.
- Stephens Inc., January 10, 2014.
- KeyBanc, January 13, 2014.
- Sterne Agee CRT, January 15, 2014.
- Gordon Haskett, January 16, 2014.

- BB&T, February 10, 2014.
- UBS, February 26, 2014.
- Sterne Agee CRT, February 27, 2014.
- UBS, February 27, 2014.
- Credit Suisse, February 27, 2014.
- Jefferies, February 27, 2014.
- Johnson Rice & Company, February 27, 2014.
- KeyBanc, February 27, 2014.
- BB&T, February 28, 2014.
- Macquarie, February 28, 2014.
- Sterne Agee CRT, February 28, 2014.
- Credit Suisse, February 28, 2014.
- DA Davidson, February 28, 2014.
- Deutsche Bank, March 1, 2014.
- Sterne Agee CRT, March 2, 2014.
- KeyBanc, March 2, 2014.
- William Blair, March 3, 2014.
- Barclays, March 3, 2014.
- UBS, March 3, 2014.
- Stephens Inc., March 3, 2014.
- Jefferies, March 3, 2014.
- Stephens Inc., March 3, 2014.
- Johnson Rice & Company, March 3, 2014.
- Johnson Rice & Company, March 11, 2014.
- Cowen and Company, March 17, 2014.
- Cowen and Company, March 18, 2014.
- KeyBanc, March 20, 2014.
- Cowen and Company, March 26, 2014.
- Credit Suisse, March 26, 2014.
- KeyBanc, March 26, 2014.
- Cowen and Company, April 9, 2014.
- UBS, April 9, 2014.
- Credit Suisse, April 9, 2014.
- KeyBanc, April 9, 2014.
- Sterne Agee CRT, April 10, 2014.
- Credit Suisse, May 5, 2014.
- Cowen and Company, May 5, 2014.
- UBS, May 5, 2014.
- KeyBanc, May 5, 2014.

- DA Davidson, May 5, 2014.
- Stephens Inc., May 5, 2014.
- UBS, May 6, 2014.
- KeyBanc, May 28, 2014.
- KeyBanc, May 29, 2014.
- Stephens Inc., June 2, 2014.
- DA Davidson, June 2, 2014.
- Jefferies, June 3, 2014.
- DA Davidson, June 3, 2014.
- Credit Suisse, June 19, 2014.
- William Blair, June 19, 2014.
- UBS, June 19, 2014.
- Macquarie, June 19, 2014.
- Cowen and Company, June 19, 2014.
- Stephens Inc., June 19, 2014.
- Johnson Rice & Company, June 19, 2014.
- DA Davidson, June 19, 2014.
- Barclays, June 20, 2014.
- Deutsche Bank, June 20, 2014.
- Credit Suisse, June 20, 2014.
- Sterne Agee CRT, June 20, 2014.
- Jefferies, June 20, 2014.
- Johnson Rice & Company, June 20, 2014.
- KeyBanc, June 23, 2014.
- BB&T, June 27, 2014.
- BB&T, June 30, 2014.
- UBS, July 31, 2014.
- Credit Suisse, July 31, 2014.
- Deutsche Bank, July 31, 2014.
- Cowen and Company, July 31, 2014.
- Macquarie, July 31, 2014.
- William Blair, July 31, 2014.
- Jefferies, July 31, 2014.
- DA Davidson, July 31, 2014.
- Johnson Rice & Company, July 31, 2014.
- Barclays, August 1, 2014.
- Stephens Inc., August 1, 2014.
- BB&T, August 1, 2014.
- Sterne Agee CRT, August 1, 2014.

- DA Davidson, August 4, 2014.
- KeyBanc, August 6, 2014.
- Cowen and Company, August 18, 2014.
- Jefferies, August 18, 2014.
- KeyBanc, September 2, 2014.
- KeyBanc, October 22, 2014.
- KeyBanc, October 23, 2014.
- KeyBanc, October 30, 2014.
- Deutsche Bank, November 4, 2014.
- Credit Suisse, November 4, 2014.
- Cowen and Company, November 4, 2014.
- UBS, November 4, 2014.
- BB&T, November 4, 2014.
- Macquarie, November 4, 2014.
- DA Davidson, November 4, 2014.
- Johnson Rice & Company, November 4, 2014.
- KeyBanc, November 4, 2014.
- Sterne Agee CRT, November 5, 2014.
- Barclays, November 5, 2014.
- William Blair, November 5, 2014.
- Jefferies, November 6, 2014.
- UBS, November 9, 2014.
- Cowen and Company, November 10, 2014.
- BB&T, December 3, 2014.
- Credit Suisse, December 11, 2014.
- UBS, December 11, 2014.
- BB&T, December 11, 2014.
- DA Davidson, December 11, 2014.
- Sterne Agee CRT, December 12, 2014.
- Deutsche Bank, December 12, 2014.
- Cowen and Company, December 12, 2014.
- William Blair, December 12, 2014.
- Jefferies, December 15, 2014.
- Credit Suisse, December 15, 2014.
- KeyBanc, December 18, 2014.
- KeyBanc, January 5, 2015.
- William Blair, January 20, 2015.
- Sterne Agee CRT, January 21, 2015.
- DA Davidson, February 27, 2015.

#### **Documents and Other Information Reviewed and Relied Upon**

- Johnson Rice & Company, February 27, 2015.
- KeyBanc, March 2, 2015.
- Johnson Rice & Company, March 3, 2015.
- DA Davidson, March 27, 2015.
- KeyBanc, March 29, 2015.
- DA Davidson, April 29, 2015.
- Johnson Rice & Company, April 29, 2015.
- KeyBanc, April 29, 2015.
- Johnson Rice & Company, April 30, 2015.
- KeyBanc, May 27, 2015.
- KeyBanc, June 8, 2015.
- KeyBanc, June 10, 2015.
- DA Davidson, June 10, 2015.
- Johnson Rice & Company, June 12, 2015.
- DA Davidson, June 18, 2015.
- DA Davidson, June 19, 2015.
- KeyBanc, July 6, 2015.

#### **SEC FILINGS**

- KBR, Inc., Form 10-Q for the Quarter Ended September 30, 2012, filed October 24, 2012.
- KBR, Inc., Form 8-K, filed October 24, 2012.
- KBR, Inc., Form 8-K, filed November 6, 2012.
- KBR, Inc., Form 8-K, filed November 28, 2012.
- KBR, Inc., Form 8-K, filed January 10, 2013.
- KBR, Inc., Form 10-K for the Fiscal Year Ended December 31, 2012, filed February 20, 2013.
- KBR, Inc., Form 8-K, filed February 20, 2013.
- KBR, Inc., Form 8-K, filed March 8, 2013.
- KBR, Inc., Form 8-K, filed March 18, 2013.
- KBR, Inc., Form DEFA14A, filed April 5, 2013.
- KBR, Inc., Form DEF 14A, filed April 5, 2013.
- KBR, Inc., Form 10-Q for the Quarter Ended March 31, 2013, filed April 25, 2013.
- KBR, Inc., Form 8-K, filed April 25, 2013.
- KBR, Inc., Form 8-K, filed April 30, 2013.
- KBR, Inc., Form 8-K, filed May 20, 2013.
- KBR, Inc., Form 8-K, filed June 18, 2013.
- KBR, Inc., Form 10-Q for the Quarter Ended June 30, 2013, filed July 25, 2013.

- KBR, Inc., Form 8-K, filed July 25, 2013.
- KBR, Inc., Form 8-K, filed August 7, 2013.
- KBR, Inc., Form S-8, filed August 22, 2013.
- KBR, Inc., Form 8-K, filed August 29, 2013.
- KBR, Inc., Form 8-K, filed September 5, 2013.
- KBR, Inc., Form 8-K, filed October 1, 2013.
- KBR, Inc., Form 8-K, filed October 11, 2013.
- KBR, Inc., Form 10-Q for the Quarter Ended September 30, 2013, filed October 24, 2013.
- KBR, Inc., Form 8-K, filed October 24, 2013.
- KBR, Inc., Form 8-K, filed October 28, 2013.
- KBR, Inc., Form 8-K, filed December 16, 2013.
- KBR, Inc., Form 8-K, filed December 17, 2013.
- KBR, Inc., Form 10-K for the Fiscal Year Ended December 31, 2013, filed February 27, 2014.
- KBR, Inc., Form 8-K, filed February 28, 2014.
- KBR, Inc., Form 8-K, filed March 10, 2014.
- KBR, Inc., Form DEFA14A, filed April 1, 2014.
- KBR, Inc., Form DEF 14A, filed April 1, 2014.
- KBR, Inc., Form 8-K, filed April 9, 2014.
- KBR, Inc., Form 8-K, filed May 5, 2014.
- KBR, Inc., Form NT 10-Q for the Quarter Ended March 31, 2014, filed May 13, 2014.
- KBR, Inc., Form 8-K, filed May 13, 2014.
- KBR, Inc., Form 8-K, filed May 20, 2014.
- KBR, Inc., Form 10-KA for the Fiscal Year Ended December 31, 2013, filed May 30, 2014.
- KBR, Inc., Form 10-Q for the Quarter Ended March 31, 2014, filed June 19, 2014.
- KBR, Inc., Form 8-K, filed June 19, 2014.
- KBR, Inc., Form 8-K, filed July 8, 2014.
- KBR, Inc., Form 10-Q for the Quarter Ended June 30, 2014, filed July 31, 2014.
- KBR, Inc., Form 8-K, filed July 31, 2014.
- KBR, Inc., Form 8-K, filed August 22, 2014.
- KBR, Inc., Form 8-K, filed October 7, 2014.
- KBR, Inc., Form 8-K, filed October 22, 2014.
- KBR, Inc., Form 10-Q for the Quarter Ended September 30, 2014, filed November 4, 2014.
- KBR, Inc., Form 8-K, filed November 4, 2014.
- KBR, Inc., Form 8-K, filed December 12, 2014.
- KBR, Inc., Form 8-K, filed January 21, 2015.

#### **Documents and Other Information Reviewed and Relied Upon**

- KBR, Inc., Form 10-K for the Fiscal Year Ended December 31, 2014, filed February 27, 2015.
- KBR, Inc., Form 8-K, filed February 27, 2015.
- KBR, Inc., Form 8-K, filed March 3, 2015.
- KBR, Inc., Form 8-K, filed March 16, 2015.
- KBR, Inc., Form 8-K, filed March 18, 2015.
- KBR, Inc., Form DEFA14A, filed March 30, 2015.
- KBR, Inc., Form DEF 14A, filed March 30, 2015.
- KBR, Inc., Form 10-Q for the Quarter Ended March 31, 2015, filed April 29, 2015.
- KBR, Inc., Form 8-K, filed April 29, 2015.
- KBR, Inc., Form 8-K, filed May 19, 2015.
- KBR, Inc., Form 8-K, filed June 4, 2015.
- KBR, Inc., Form 8-K, filed July 7, 2015.

#### ACADEMIC AND PROFESSIONAL LITERATURE

- Aktas, Nihat, Eric de Bodt, and Jean-Gabriel Cousin, "Event Studies with a Contaminated Estimation Period," *Journal of Corporate Finance*, 2007.
- Ansari, A.R. and R.A. Bradley, "Rank-Sum Tests For Dispersions," *Annals of Mathematical Statistics*, 31, 1960, 1174-1189.
- Atkins, Allen B. and Edward A. Dyl, "Price Reversals, Bid-Ask Spreads, and Market Efficiency," *Journal of Financial and Quantitative Analysis*, Vol. 25, No. 4, 1990.
- Barber, Brad M., Paul A. Griffin, and Baruch Lev, "The Fraud-on-the-Market Theory and the Indicators of Common Stock Efficiency," *Journal of Corporation Law*, 1994.
- Beaver, William H., "The Information Content of Annual Earnings Announcements" *Journal of Accounting and Research*, 1968.
- Beaver, William H., Financial Reporting an Accounting Revolution, 3rd ed., 1998.
- Ball, Ray, and Stephen J. Brown, "An Empirical Evaluation of Accounting Income Numbers," *Journal of Accounting Research*, 1968.
- Ball, Ray, "Anomalies in Relationships Between Securities' Yield and Yield-Surrogates," *Journal of Financial Economics*, 1978.
- Ball, Ray, and S. P. Kothari, "Security Returns around Earnings Announcements," *The Accounting Review*, 1991.
- Binder, John J., "Measuring the Effects of Regulation with Stock Price Data," *The RAND Journal of Economics*, 1985.
- Bromberg, Alan R. and Lewis D. Lowenfels, *Securities Fraud and Commodities*, August, 1988.
- Bodie, Zvi Alex Kane, and Alan J. Marcus, *Investments*, 9th edition, 2011.

- Box, G.E.P., and G.C. Tiao, "Intervention Analysis with Applications to Economic and Environmental Problems," *Journal of the American Statistical Association*, 1975.
- Brav, Alon and J.B. Heaton, "Event Studies In Securities Litigation: Low Power, Confounding Effects, And Bias," working paper, March 30, 2015.
- Campbell, John Y., Andrew W. Lo and A. Craig MacKinlay, *The Econometrics of Financial Markets*, Princeton University Press, 1997.
- Cao, Charles, Bing Liang, Andrew W. Lo, and Lubomir Petrasekp, "Hedge Fund Holdings and Stock Market Efficiency," *Federal Reserve Board; Finance and Economics Discussion Series*, whitepaper, 2014-36, 2014.
- Crew, Nicholas I., et al., "Federal Securities Acts and Areas of Expert Analysis,"
   Litigation Services Handbook; Chapter 24, The Role of the Financial Expert, 5<sup>th</sup> ed.,
   edited by Roman L. Weil, Daniel G. Lentz, and David P. Hoffman, John Wiley & Sons,
   Inc., 2012.
- Daniel, Wayne W., Applied Nonparametric Statistics, Houghton Mifflin, 1978.
- Degeorge, Francois, Jayendu Patel, and Richard Zeckhauser, "Earnings Management to Exceed Thresholds," *Journal of Business*, 1999.
- Fama, Eugene F., "Efficient Capital Markets: A Review of Theory and Empirical Work," *Journal of Finance*, 1970.
- Fama, Eugene F., "Efficient Capital Markets: II," Journal of Finance, 1991.
- Hogg, Robert V., Joseph W. McKean, and Allen T. Craig, *Introduction to Mathematical Statistics*, 6th Edition, Pearson Prentice Hall, 2005.
- Hollander, Wolfe, Nonparametric Statistical Methods, John Wiley & Sons, 1973.
- Larcker, David F., Lawrence A. Gordon, and George E. Pinches, "Testing for Market Efficiency: A Comparison of the Cumulative Average Residual Methodology and Intervention Analysis," *The Journal of Financial and Quantitative Analysis*, 1980.
- Malatesta, Paul H., "Measuring Abnormal Performance: The Event Parameter Approach Using Joint Generalized Least Squares," *The Journal of Financial and Quantitative Analysis*, 1986.
- Miller Jr., Rupert G., *Beyond ANOVA: Basics of Applied Statistics*, John Wiley & Sons, 1986.
- Patell, James M., and Mark A. Wolfson, "The Intraday Speed Of Adjustment Of Stock Prices To Earnings And Dividend Announcements," *Journal of Financial Economics*, 1984.
- Reilly, Frank and Keith Brown, "Organization and Functioning of Securities Markets," in *Equity and Fixed Income CFA Program Curriculum*, vol. 5, Pearson Custom Publishing, 2008.
- Sprent, Peter, and Nigel Smeeton, *Applied Nonparametric Statistical Methods*, 4<sup>th</sup> Edition, 2007.

#### **Documents and Other Information Reviewed and Relied Upon**

- Tabak, David I., and Frederick C. Dunbar, "Materiality and Magnitude: Event Studies in the Courtroom," in *Litigation Services Handbook, The Role of the Financial Expert*, 3rd ed., edited by Roman L. Weil, Michael J. Wagner, and Peter B. Frank, John Wiley & Sons, Inc., 2001.
- Thompson, Rex, "Conditioning the Return-Generating Process on Firm-Specific Events: A Discussion of Event Study Methods," *The Journal of Financial and Quantitative Analysis*, 1985.
- Watts, Ross L. "Systematic Abnormal Returns After Quarterly Earnings Announcements" *Journal of Financial Economics*, 1978.

#### **CONFERENCE CALLS**

- "KBR D.A. Davidson Engineering and Construction Conference," *Factset: callstreet*, September 11, 2013.
- "KBR Q3 2013 Earnings Conference Call," Factset: callstreet, October 25, 2013.
- "KBR Q4 2013 Earnings Conference Call," Factset: callstreet, February 28, 2014.
- "KBR Q1 2014 Earnings Conference Call," Factset: callstreet, June 19, 2014.
- "KBR Q2 2014 Earnings Conference Call," Factset: callstreet, July 31, 2014.

#### DATA AND DATABASES

- Bloomberg
- Capital IQ
- CRSP (Center for Research in Security Prices)
- EDGAR
- Factiva
- FactSet
- Thomson Research

# **LEGAL CASES**

- Basic, Inc. v. Levinson, 485 U.S. (1988).
- Cammer v. Bloom, 711 F. Supp. 1264 (N.J., 1989).
- Krogman v. Sterritt, 202 F.R.D. 467 (N.D.Tex. 2001).
- *Unger v. Amedisys*, 401 F.3d 316 (5<sup>th</sup> Cir. 2005).
- Nguyen v. Radient Pharm. Corp., 287 F.R.D. 563, 573 (C.D. Cal. 2012).
- Amgen Inc., et al. v. Connecticut Retirement Plans, 133 S. Ct. 1184, 1190 (2013).

#### **Documents and Other Information Reviewed and Relied Upon**

• Halliburton Co. Et Al. v. Erica P. John Fund, Inc., FKA Archdiocese of Milwaukee Supporting Fund, Inc., 573 U. S. 10 (2014).

#### **OTHER**

- "Nasdaq To Enable Customers To Trade NYSE Stocks," Reuters, 28 March 2005.
- "Revisions to the Eligibility Requirements for Primary Securities Offerings on Forms S-3 and F-3," SEC Release No. 33-8878, December 19, 2007.
- "Fact Sheet; Designated Market Makers," NYSE Euronext, 2012.
- "Float Adjustment Methodology," S&P Dow Jones Indices, July 2012.
- "Brief of Financial Economists as Amici Curiae in Support of Respondents," *Halliburton Co. and David Lesar v., Erica P. John Fund, Inc.*, FKA Archdiocese of Milwaukee Supporting Fund, Inc., February 5, 2014.
- Any other documents and data cited in the report.

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# **EDUCATION**

1989	YALE UNIVERSITY Ph.D. in Economics (Concentration in Finance)
1986	YALE UNIVERSITY M.Phil. in Economics
1983	YALE UNIVERSITY M.A. in Economics

B.A. in Economics (Phi Beta Kappa, cum laude)

# TEACHING EXPERIENCE

1981 POMONA COLLEGE

1996 - present	BABSON COLLEGE Babson Park, MA Full-time Faculty, Finance Division Associate Professor (2000-present) Donald P. Babson Chair in Applied Investments (2002-2010) Faculty Director of the Babson College Fund (2002-2009) Director of the Stephen D. Cutler Investment Management Center (2002-2007) Assistant Professor (1996-2000)
1990 - 1995	BOSTON UNIVERSITY SCHOOL OF MANAGEMENT Boston, MA Full-time Faculty, Department of Finance
1993 - 1994	WASHINGTON UNIVERSITY, OLIN SCHOOL OF BUSINESS St. Louis, MO Visiting Assistant Professor, Department of Finance

#### **BUSINESS EXPERIENCE**

2008 - present CROWNINSHIELD FINANCIAL RESEARCH, INC.

Wellesley, MA

President and Senior Expert

1996 - 2008 THE MICHEL-SHAKED GROUP

Boston, MA

Senior Expert (2001 - 2008) Affiliated Expert (1996 - 2001)

1987 - 1990 FEDERAL RESERVE BANK OF ATLANTA

Economist

#### PROFESSIONAL DESIGNATIONS

1998 Awarded the Chartered Financial Analyst designation by the Association for Investment Management and Research.

#### RESEARCH AWARDS

1999 Greater Boston Real Estate Board/Real Estate Finance Association – Research Grant and Featured Speaker at Real Estate Finance Association Meetings.

#### PAPERS AND PUBLICATIONS

"Underestimation of Securities Fraud Aggregate Damages Due to Inter-Fund Trades." (with Gang Hu, Mark Marcus, and Zann Ali) *Journal of Forensic Economics*, September 2013, Vol. 24, No. 2, 161-173.

"Lehman Equity Research Tipping: Evidence in the Stock Price Data," Working paper, March 2010. Cited in *New York Times* May 19, 2012, and made available on the *New York Times* website.

"Distortion in Corporate Valuation: Implications of Capital Structure Changes" (with Allen Michel and Jacob Oded) *Managerial Finance*, 2011, Vol. 37(8), 681-696.

"Market Signals of Investment Unsuitability" (with Alexander Liss and Steven Achatz) Law360.com, June 3, 2010. Available from http://www.law360.com/articles/170690.

"Planning Capital Expenditure," in *The Portable MBA in Financing and Accounting*, J. L. Livingstone and T. Grossman, editors, New York: Wiley, 3<sup>rd</sup> edition 2001, and 4<sup>th</sup> edition 2009.

"Financial Management of Risks," in *The Portable MBA in Financing and Accounting*, J. L. Livingstone and T. Grossman, editors, New York: Wiley, 2<sup>nd</sup> edition 1997, 3<sup>rd</sup> edition 2001, and 4<sup>th</sup> edition 2009.

"Fraud-on-the-Market Theory: Is a Market Efficient?" (with Allen Michel and Israel Shaked) *American Bankruptcy Institute Journal*, May 2005.

"Valuation of Credit Guarantees" (with Allen J. Michel and Israel Shaked). *Journal of Forensic Economics* 17(1), pp. 17-37, 2005.

"A Better Understanding of why NPV Undervalues Managerial Flexibility," (with Diane Lander) in *The Engineering Economist*, 2002, Volume 47, Number 4.

"Teaching the Strong-Form Efficient Market Hypothesis: A Classroom Experiment," *Journal of Financial Education*, fall 2000.

A Future for Real Estate Futures: Potential Applications of Derivatives in Real Estate Investment and Finance (with Linda Stoller). Monograph. Boston: Real Estate Finance Association / Greater Boston Real Estate Board, May 2000.

"The Risk Budget: Using Your Human Resources," (with John Marthinsen and John Edmunds) *Risk Management*, April 2000.

"Scenario Learning: A Powerful Tool for the 21<sup>st</sup> Century Planner," (with Jeffrey Ellis and Dennis Stearns) *The Journal of Financial Planning*, April 2000.

"Protecting Future Product Liability Claimants in the Case of Bankruptcy," (with Allen Michel and Israel Shaked) *American Bankruptcy Institute Journal*, January 2000.

"Measuring Risk with the Bodie Put When Stocks Exhibit Mean Reversion," *The Journal of Risk*, Vol. 1, No. 3, 1999.

"Just-in-Time Mathematics: Integrating the Teaching of Finance Theory and Mathematics," (with Gordon Prichett) *Primus*, Vol. IX, No. 2, June 1999.

Atlanta Park Medical Center v. Hamlin Asset Management. (with Natalie Taylor). Babson Case Collection, Harvard Business School Press, 1998.

"Dealing with Delta," Derivatives Week, VII, No. 44, November 2, 1998.

"Expected Return in Option Pricing: A Non-Mathematical Explanation," *Derivatives Week*, VII, No. 35, August 31, 1998.

"When Hedges Fail: The Put Paradox and its Solution," *Derivatives Quarterly*, Vol. 4, No. 2, Winter 1997.

Finance and Accounting for Project Management. New York: American Management Association, 1996.

"International Investing," in *Irwin's Directory of Emerging Market Brokerages*. New York: Irwin, 1996.

"The Hull and White Implied Volatility." Boston University Working Paper #92-51, 1992.

"Immunizing Against Interest Rate Risk Using the Macaulay Duration Statistic: An Assessment," (with Don Smith) in *Financial Systems and Risk Management*, the proceedings of the US-Japan Forum on Financial Strategy in the 1990s, sponsored by Osaka Foundation of International Exchange and Boston University, August 1991.

"Covered Call Options: A Proposal to Ease LDC Debt," (with Peter Abken) *Federal Reserve Bank of Atlanta Economic Review*, March/April 1990. Reprinted in *Financial Derivatives: New Instruments and Their Uses*. Atlanta: Federal Reserve Bank.

"Forecasting Stock-Market Volatility Using Options on Index Futures," *Federal Reserve Bank of Atlanta Economic Review*, May/June 1989. Reprinted in *Financial Derivatives: New Instruments and Their Uses*. Atlanta: Federal Reserve Bank.

"The Black-Scholes Formula is Nearly Linear in Sigma for At-the-Money Options; Therefore Implied Volatilities from At-the-Money Options are Virtually Unbiased." Federal Reserve Bank of Atlanta Working Paper #88-9, December 1988.

"The Effect of the 'Triple Witching Hour' on Stock Market Volatility," (with William Goetzmann) *Federal Reserve Bank of Atlanta Economic Review*, September/October 1988. Reprinted in *Financial Derivatives: New Instruments and Their Uses*. Atlanta: Federal Reserve Bank.

"Stock Market Volatility," Federal Reserve Bank of Atlanta Economic Review, November/December 1987.

Book review of *In Who's Interest: International Banking and American Foreign Policy*, by Benjamin J. Cohen, Yale University Press, in *Federal Reserve Bank Of Atlanta Economic Review*, Summer 1987.

#### **PRESENTATIONS**

- "Determining the Defendant's Ability to Pay," at Taxpayers Against Fraud Education Fund Conference, October 2010.
- "The Computation of Damages in Securities Fraud Cases," at the Grant and Eisenhofer Institutional Investor Conference, December 2002.
- "The Role of the Financial Expert in Complex Litigation," at the Financial Management Association Conference, October 2000.
- "Entrepreneurial Incentives and Resource Allocation Among Corporate Venturing Initiatives," (with Joel Shulman and U. Srinivasa Rangan), Babson Entrepreneurship Research Conference, May 2000.
- "Application of Real Options in Purchasing Strategies," (with Juan Orozco), presented at the International Applied Business Research Conference, March 2000.
- "A Future for Real Estate Futures," (with Linda Stoller) at the Fairfield County chapter of the Real Estate Finance Association, November 1999, and at the Greater Boston Real Estate Board, November 2000.
- "Atlanta Park Medical Center v. Hamlin Asset Management," (with Natalie Taylor) at the 1999 convention of the North American Case Research Association.
- "Using Future Worlds<sup>TM</sup> in the Financial Planning Process," (with Jeffrey Ellis) at the Institute of Certified Financial Planners Masters Retreat, October 1999.
- "Toward a Better Understanding of Real Options: A Weighted Average Discount Rate Approach," at the 1999 Financial Management Association Conference, the 1999 European Financial Management Association Conference, and the 1999 Multinational Finance Society Conference.
- "Just-In-Time Mathematics: Integrating the Teaching of Finance Theory and Mathematics," (with Gordon Prichett) at the 1999 Financial Management Association Conference.
- "Alternative Dow Investments for the Individual Investor: Diamonds, Synthetics, and the Real Thing," at the 1999 Academy of Financial Services Convention.

"Evidence of Yield Burning in Municipal Refundings" at Financial Management Association Convention, October 1997; Government Finance Officers Association, 1997; and Northeast Regional Convention of the National Association of State Treasurers, 1997.

"Teaching the Strong-Form Efficient Market Hypothesis" at Conference on Classroom Experiments in the Teaching of Economics at University of Virginia, September 1995.

"Efficient Consolidation of Implied Standard Deviations," (with Shaikh Hamid) at Midwest Finance Association, March 1995.

"A Test of Intertemporal Averaging of Implied Volatilities," (with Shaikh Hamid) at Eastern Finance Association, April 1995.

"Taking Advantage of Volatility: Non-linear Forecasting and Options Strategies," (with Hassan Ahmed) at Chicago Board of Trade / Chicago Board Options Exchange Conference on Risk Management, February 1992.

"Immunizing Against Interest Rate Risk Using the Macaulay Duration Statistic: An Assessment," (with Don Smith) at Japan-U.S. Conference on Financial Strategies in the 1990s, Osaka, Japan, August 1991.

"The Hull and White Implied Volatility," at American Finance Association Convention, December 1990.

#### **REVIEWED ARTICLES AND BOOKS FOR:**

Harvard Business School Publishing

Elsevier

Journal of Economic Education

Journal of Forensic Economics

Journal of Risk

Financial Review

North American Case Research Association

Financial Management

Journal of Business

Journal of Money, Credit and Banking

Quarterly Review of Economics and Finance

Blackwell

Prentice Hall

Southwestern Publishing

#### **COURSES TAUGHT**

Capital Markets

Mod B: Decision Making and Applications, Finance stream (MBA)

Financial Reporting and Corporate Finance (MBA)

Valuation (MBA)

Investments (MBA and Executive)

Equity Markets (MBA)

Fixed Income Analysis (Undergraduate and MBA)

Babson College Fund (Undergraduate and MBA)

Options and Futures (Undergraduate)

Advanced Derivative Securities (MBA)

Corporate Finance (MBA and Executive)

Financial Management (MBA)

Risk Management (MBA)

Corporate Financial Strategy (MBA)

Integrated Management (Undergraduate)

Cross-Functional Management (Integrated curriculum, Undergraduate)

Continuous-Time Finance (Doctoral)

Portfolio Theory / Management Information Systems (Executive)

Quantitative Methods for Investment Management (Undergraduate and MBA)

Introduction to Derivative Securities (Executive)

International Finance (Executive)

#### **TEACHING AWARDS**

Reid Teaching Award, Washington University, Olin School of Business, 1993-94.

#### SELECT LIST OF MEDIA CITATIONS

"Is Insider Trading Part of the Fabric?" by Gretchen Morgenson, *The New York Times*, May 19, 2012.

"Bankers Rigging Municipal Contract Bids Admit to Cover-Up Lies," by William Selway and Martin Z. Braun, *Bloomberg Markets Magazine*, November 24, 2010.

"Hospital Move Presents Buy-Out Groups with New Risks," by Francesco Guerra, Christopher Bowe, and Rebecca Knight, *Financial Times*, July 15, 2006.

"Funds of Knowledge Add Value," by Rebecca Knight, *Financial Times*, March 12, 2006.

- "City's Financial Picture Worse Than Ever, Sanders Says," by Matthew T. Hall, *San Diego Union-Tribune*, January 7, 2006.
- "Downer: Stock Market Takes Another Dive," by John Chesto, *Boston Herald*, July 23, 2002.
- "Banks, Developers, Are Main Beneficiaries," [editorial column] by Steven Feinstein, *The Boston Globe*, March 31, 2002, p. C4.
- "Washington Investing: What Michael Saylor is Really Worth," by Jerry Knight, *The Washington Post*, March 6, 2000.
- "IBM Retools Pensions," by Stephanie Armour, USA Today, May 4, 1999.
- "L.A. MTA's Law Firm Says Lissack Strategy Will be a Replay," by Andrea Figler, *Bond Buyer*, September 30, 1998.
- "Fed Key Player in Rescue of Floundering Hedge Fund," by Andrew Fraser, Associated Press, September 25, 1998.
- "Top Banks Plan Bailout for Fund," by Andrew Fraser, Associated Press, September 24, 1998.
- "Clarion Call to the Small Investor," by Jo-Ann Johnston, *The Boston Globe*, March 4, 1998.
- "L.A. Authority Study Shows Rampant Yield Burning Abuse," by Michael Stanton, *The Bond Buyer*, April 22, 1997.
- "Dispute Over Yield Burning Dominates GFOA Session," by Michael Stanton, *The Bond Buyer*, January 29, 1997.
- "Men Behaving Badly (Yield Burning)," *Grants Municipal Bond Observer*, January 24, 1997.
- "Municipal Bond Dealers Face Scrutiny," by Peter Truell, *The New York Times*, December 17, 1996.
- "Iowa Market Takes Stock of Presidential Candidates," by Stanley W. Angrist, *The Wall Street Journal*, August 28, 1995.
- "Looking for Clues in Options Prices," by Sylvia Nasar, *The New York Times*, July 18, 1991.

"For Fed, A New Set of Tea Leaves," by Sylvia Nasar, *The New York Times*, July 5, 1991.

#### MEMBERSHIP IN PROFESSIONAL SOCIETIES

American Finance Association
Boston Security Analysts Society
Chartered Financial Analyst Institute
Financial Management Association
Foundation for Advancement of Research in Financial Economics (founding member)
National Association of Forensic Economics
North American Case Research Association

State of New Jersey, Department of Treasury, Division of Investment on behalf of Common Pension Fund A, vs. Merrill Lynch & Co., and Bank of America Corporation Docket No. L-3855-09
Superior Court of New Jersey
Law Division
Hudson County
Deposition Testimony
June 2012

Jan Buettgen, et al. vs. Katherine J. Harless, et al. United States District Court
Northern District of Texas
Dallas Division
Civil Action No. 3:09-cv-00791-K
Deposition Testimony
August 2012

DJ Mortgage, LLC, and John F. Smithgall vs. Synovus Bank d/b/a Bank of North Georgia Superior Court for the County of Fulton State of Georgia Civil Action no. 11-cv-205000 Deposition Testimony September 2012

Carlos Munoz, et al. vs. China Expert Technology, Inc.; PKF New York, Certified Public Accountants, A Professional Corporation; PKF Hong Kong, Certified Public Accountants; And BDO McCade Lo Limited Certified Public Accountants
United States District Court
Southern District of New York
Civil Action no. 07-cv-10531 (AKH)
Deposition Testimony
March 2013

In Re American International Group, Inc. 2008 Securities Litigation United States District Court
Southern District of New York
Civil Action no. 08-CV-4772-LTS
Deposition Testimony
July 2011 and February 2012
Testimony at Evidentiary Hearing
April 2013 and May 2013

Christopher Cohan, et al., vs. KPMG LLP Court of Fulton County State of Georgia Civil Action no. 12EV0114325G June 2013

Landmen Partners Inc. et al. vs. The Blackstone Group L.P., et al. United States District Court
Southern District of New York
Civil Action no. 08-cv-03601-HB
Deposition Testimony
May 2013 and August 2013

Louis Pagnotti, Inc. et al., vs. Deloitte & Touche, LLP, In the Court of Common Pleas of Luzerne County Case No. 557 C of 2003
Deposition Testimony
October 2013

In Re IndyMac Mortgage-Backed Securities Litigation Civil Action No. 1:09-cv-04583-LAK United States District Court Southern District of New York Deposition Testimony October 2013

Anwar, et al., v. Fairfield Greenwich Limited, et al. Civil Action No. 09-cv-0118 (VM) United States District Court Southern District of New York Deposition Testimony February 2014

In Re Symbol Technologies, Inc. Securities Litigation Civil Action No. 05-cv-3923-DRH United States District Court Eastern District of New York Deposition Testimony June 2014

In Re Groupon, Inc. Securities Litigation Civil Action No. 12-cv-2450 United States District Court Northern District of Illinois Deposition Testimony February 2014 Testimony at Evidentiary Hearing September 2014

Mary K. Jones, et al., vs. Pfizer Inc., et al. United States District Court Southern District of New York Civil Action no. 10-cv-03864-AKH Deposition Testimony January 2012 and October 2014

In Re Questcor Pharmaceuticals, Inc. Securities Litigation Civil Action No. 12-cv-01623-DMG United States District Court Central District of California Deposition Testimony October 2014

In Re Longtop Financial Technologies, Ltd. Securities Litigation Civil Action No. 11-cv-3658-SAS United States District Court Southern District of New York Trial Testimony November 2014

In Re Delcath Systems, Inc. Securities Litigation Civil Action No. 13 Civ. 3116 (LGS) United States District Court Southern District of New York Deposition Testimony December 2014

In Re Prudential Financial, Inc. Securities Litigation Civil Action No. 2:12-cv-05275-SDW-MCA United States District Court District of New Jersey Deposition Testimony January 2015

In Re Walter Energy, Inc. Securities Litigation Civil Action No. 2:12-cv-00281-VEH United States District Court Northern District of Alabama Deposition Testimony January 2014 and March 2015

In Re CVS Caremark Corporation Securities Litigation Civil Action No. 1:09-cv-00554-S-DLM United States District Court District of Rhode Island Deposition Testimony March 2015

In Re JPMorgan Chase & Co. Securities Litigation Civil Action No. 1:12-cv-03852-GBD United States District Court Southern District of New York Deposition Testimony March 2015

In Re Baxter International Inc., et al. Securities Litigation Civil Action No. 1:10-cv-06016 United States District Court Northern District of Illinois Eastern Division Deposition Testimony November 2014 and May 2015

In Re Goldman, Sachs & Co., et al. Securities Litigation Civil Action No. 10 Civ. 4429 (MGC) United States District Court Southern District of New York Deposition Testimony June 2015

In Re United States of America, et al. v. Frank Kurnik and Pharmerica Corp., et al. Case No. 3:11-cv-1464-JFA
United States District Court
District South Carolina
Deposition Testimony
June 2015

In Re HCA Holdings, Inc., Securities Litigation Civil Action No. 3:11-cv-01033 United States District Court Middle District of Tennessee Nashville Division Deposition Testimony June 2015

In Re Claude A. Reese, et al. v. Robert A. Malone, et al. Civil Action No. C08-1008 MJP United States District Court Western District of Washington at Seattle Deposition Testimony June 2015

In Re Bridgepoint Education, Inc. Securities Litigation Civil Action No. 3:12-cv-01737-JM-JLB United States District Court Southern District of California Deposition Testimony July 2015

In Re Dana Corporation, et al. Securities Litigation Civil Action No. 3:05-cv-07393-JGC United States District Court Northern District of Ohio Deposition Testimony June 2015 and August 2015

In Re Las Vegas Sands Corp. Securities Litigation Civil Action No. 2:10-cv-00765-KJD-LRL United States District Court District of Nevada Deposition Testimony March 2015 and December 2015

In Re Groupon, Inc. Securities Litigation Civil Action No. 12-cv-2450 United States District Court Northern District of Illinois Deposition Testimony December 2015

In Re: Petrobras Securities Litigation Case No. 14-cv-9662 (JSR) United States District Court Southern District of New York Deposition Testimony October 2015 and December 2015 Testimony at Evidentiary Hearing December 2015

In Re Symbol Technologies, Inc. Securities Litigation Civil Action No. 05-cv-3923-DRH United States District Court Eastern District of New York Deposition Testimony January 2016

Exhibit-4
KBR Stock Prices, Divdends, Volume, and Returns

	KBR		<b>KBR</b>	KBR	KBR	KBR
	Closing	KBR	Closing	Closing	Trading	Logarithmic
 Date	Price	Dividend	Bid	Ask	Volume	Return
7/30/2013	\$30.68	-	\$30.66	\$30.67	1,419,500	
7/31/2013	\$31.28	-	\$31.27	\$31.28	1,249,100	1.94%
8/1/2013	\$31.83	-	\$31.85	\$31.86	1,612,700	1.74%
8/2/2013	\$32.18	-	\$32.15	\$32.16	888,400	1.09%
8/5/2013	\$31.90	-	\$31.88	\$31.89	960,100	-0.87%
8/6/2013	\$30.98	-	\$30.98	\$30.99	1,088,600	-2.93%
8/7/2013	\$30.40	-	\$30.39	\$30.40	998,600	-1.89%
8/8/2013	\$30.70	-	\$30.69	\$30.70	1,962,200	0.98%
8/9/2013	\$30.57	-	\$30.57	\$30.58	1,100,000	-0.42%
8/12/2013	\$30.55	-	\$30.54	\$30.55	880,500	-0.07%
8/13/2013	\$30.56	-	\$30.56	\$30.57	881,500	0.03%
8/14/2013	\$31.25	-	\$31.23	\$31.24	1,676,900	2.23%
8/15/2013	\$30.77	-	\$30.77	\$30.78	1,268,500	-1.55%
8/16/2013	\$30.95	-	\$30.95	\$30.96	1,201,100	0.58%
8/19/2013	\$30.60	-	\$30.61	\$30.62	1,128,200	-1.14%
8/20/2013	\$30.75	-	\$30.74	\$30.75	1,081,900	0.49%
8/21/2013	\$30.10	-	\$30.10	\$30.11	1,239,200	-2.14%
8/22/2013	\$30.66	-	\$30.67	\$30.67	1,225,900	1.84%
8/23/2013	\$30.76	-	\$30.76	\$30.77	851,500	0.33%
8/26/2013	\$30.67	-	\$30.68	\$30.69	927,900	-0.29%
8/27/2013	\$29.82	-	\$29.83	\$29.84	866,900	-2.81%
8/28/2013	\$29.69	-	\$29.68	\$29.69	1,088,200	-0.44%
8/29/2013	\$30.45	-	\$30.46	\$30.47	2,412,500	2.53%
8/30/2013	\$29.86	-	\$29.85	\$29.86	1,407,100	-1.96%
9/3/2013	\$29.79	-	\$29.80	\$29.81	1,726,000	-0.23%
9/4/2013	\$30.34	-	\$30.33	\$30.34	1,825,400	1.83%
9/5/2013	\$30.37	-	\$30.36	\$30.37	1,440,600	0.10%
9/6/2013	\$30.19	-	\$30.18	\$30.19	1,059,800	-0.59%
9/9/2013	\$30.83	-	\$30.82	\$30.83	953,700	2.10%
9/10/2013	\$31.35	-	\$31.35	\$31.36	806,800	1.67%
9/11/2013	\$31.26	\$0.08	\$31.24	\$31.25	758,200	-0.03%
9/12/2013	\$31.42	-	\$31.42	\$31.43	781,300	0.51%
9/13/2013	\$31.70	-	\$31.70	\$31.71	861,900	0.89%
9/16/2013	\$32.25	-	\$32.22	\$32.23	1,528,600	1.72%
9/17/2013	\$32.43	-	\$32.43	\$32.44	1,018,900	0.56%
9/18/2013	\$33.47	-	\$33.46	\$33.47	1,614,200	3.16%
9/19/2013	\$33.75	-	\$33.76	\$33.77	1,330,000	0.83%
9/20/2013	\$33.37	-	\$33.35	\$33.36	1,789,900	-1.13%
9/23/2013	\$32.75	-	\$32.75	\$32.76	1,185,000	-1.88%

Exhibit-4
KBR Stock Prices, Divdends, Volume, and Returns

	KBR		<b>KBR</b>	KBR	KBR	KBR
	Closing	KBR	Closing	Closing	Trading	Logarithmic
Date	Price	Dividend	Bid	Ask	Volume	Return
9/24/2013	3 \$32.63	-	\$32.64	\$32.65	995,800	-0.37%
9/25/2013	3 \$32.59	-	\$32.58	\$32.59	1,029,300	-0.12%
9/26/2013	3 \$32.85	-	\$32.86	\$32.87	658,400	0.79%
9/27/2013	3 \$32.88	-	\$32.88	\$32.89	1,105,600	0.09%
9/30/2013	3 \$32.64	-	\$32.64	\$32.65	796,500	-0.73%
10/1/2013	3 \$33.35	-	\$33.38	\$33.39	1,274,300	2.15%
10/2/2013	3 \$34.00	-	\$34.00	\$34.01	1,570,300	1.93%
10/3/2013	3 \$33.24	_	\$33.23	\$33.24	1,264,000	-2.26%
10/4/2013	3 \$33.27	_	\$33.27	\$33.28	616,200	0.09%
10/7/2013	3 \$32.76	_	\$32.76	\$32.77	559,600	-1.54%
10/8/2013	3 \$31.95	_	\$31.95	\$31.96	1,080,700	-2.50%
10/9/2013	3 \$32.02	-	\$32.02	\$32.04	1,244,500	0.22%
10/10/2013	3 \$32.68	-	\$32.67	\$32.68	1,279,700	2.04%
10/11/2013	3 \$33.01	_	\$33.00	\$33.01	747,100	1.00%
10/14/2013	3 \$33.41	-	\$33.40	\$33.41	932,200	1.20%
10/15/2013	3 \$33.46	-	\$33.45	\$33.46	1,728,300	0.15%
10/16/2013	3 \$33.90	-	\$33.90	\$33.91	1,692,400	1.31%
10/17/2013	3 \$34.78	-	\$34.77	\$34.78	1,158,100	2.56%
10/18/2013	3 \$35.65	-	\$35.66	\$35.67	1,726,300	2.47%
10/21/2013	3 \$36.13	-	\$36.11	\$36.12	2,079,700	1.34%
10/22/2013	3 \$36.29	-	\$36.29	\$36.30	2,343,800	0.44%
10/23/2013	3 \$35.47	-	\$35.46	\$35.47	2,741,700	-2.29%
10/24/2013	3 \$35.70	-	\$35.70	\$35.71	3,092,500	0.65%
10/25/2013	3 \$33.75	-	\$33.74	\$33.75	7,245,000	-5.62%
10/28/2013	3 \$34.32	-	\$34.33	\$34.34	3,061,800	1.67%
10/29/2013	3 \$34.57	-	\$34.58	\$34.59	1,435,800	0.73%
10/30/2013	3 \$34.96	_	\$34.98	\$34.99	1,761,600	1.12%
10/31/2013	3 \$34.54	-	\$34.53	\$34.53	1,677,200	-1.21%
11/1/2013	3 \$34.86	-	\$34.86	\$34.87	1,261,700	0.92%
11/4/2013	3 \$35.15	_	\$35.15	\$35.16	1,163,900	0.83%
11/5/2013	3 \$34.53	-	\$34.50	\$34.51	2,101,100	-1.78%
11/6/2013	3 \$34.54	-	\$34.54	\$34.55	897,600	0.03%
11/7/2013	3 \$34.39	_	\$34.39	\$34.40	2,022,400	-0.44%
11/8/2013	3 \$34.81	-	\$34.81	\$34.82	1,015,100	1.21%
11/11/2013	3 \$34.80	_	\$34.79	\$34.80	505,400	-0.03%
11/12/2013	3 \$34.50	-	\$34.49	\$34.50	967,900	-0.87%
11/13/2013	3 \$34.33	-	\$34.33	\$34.34	1,153,900	-0.49%
11/14/2013	3 \$34.33	-	\$34.32	\$34.33	1,586,900	0.00%
11/15/2013	3 \$34.63	-	\$34.62	\$34.63	1,281,800	0.87%

Exhibit-4
KBR Stock Prices, Divdends, Volume, and Returns

Date         Closing Price         KBR Dividend         Closing Bid         Closing Ask         Trading Volume         Logari Retrospector           11/18/2013         \$34.25         -         \$34.25         \$34.26         1,312,500         -1.1           11/19/2013         \$33.85         -         \$33.85         \$33.86         856,400         -1.1           11/20/2013         \$33.81         -         \$33.81         \$33.82         1,505,700         -0.1           11/21/2013         \$34.29         -         \$34.28         \$34.29         2,051,400         1.4	0% 7% 2% 1% 3% 11% 2%
11/18/2013       \$34.25       -       \$34.25       \$34.26       1,312,500       -1.1         11/19/2013       \$33.85       -       \$33.85       \$33.86       856,400       -1.1         11/20/2013       \$33.81       -       \$33.81       \$33.82       1,505,700       -0.1	0% 7% 2% 1% 3% 1% 2% 7%
11/19/2013 \$33.85 - \$33.85 \$33.86 856,400 -1.1 11/20/2013 \$33.81 - \$33.81 \$33.82 1,505,700 -0.1	7% 2% 1% 3% 11% 2% 7%
11/20/2013 \$33.81 - \$33.81 \$33.82 1,505,700 -0.1	2% 1% 3% 1% 2% 7%
	1% 3% 1% 2% 7%
11/21/2013 \$34.29 - \$34.28 \$34.29 2.051.400 1.4	.3% .1% .2% .7%
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	.1% .2% .7%
11/22/2013 \$33.87 - \$33.87 \$33.88 1,786,500 -1.2	2% 7%
11/25/2013 \$33.80 - \$33.80 \$33.81 946,900 -0.2	7%
11/26/2013 \$33.39 - \$33.40 \$33.41 2,023,800 -1.2	
11/27/2013 \$33.48 - \$33.48 \$33.49 2,004,700 0.2	4
11/29/2013 \$33.83 - \$33.83 \$33.84 477,600 1.0	4%
12/2/2013 \$33.89 - \$33.89 \$33.90 1,411,600 0.1	8%
12/3/2013 \$33.34 - \$33.34 \$33.35 1,237,700 -1.6	4%
12/4/2013 \$32.96 - \$32.95 \$32.96 1,942,600 -1.1	5%
12/5/2013 \$32.67 - \$32.67 \$32.68 1,088,800 -0.8	8%
12/6/2013 \$32.24 - \$32.24 \$32.25 1,884,200 -1.3	2%
12/9/2013 \$32.39 - \$32.38 \$32.39 1,624,100 0.4	-6%
12/10/2013 \$32.28 - \$32.28 \$32.29 1,305,600 -0.3	4%
12/11/2013 \$31.00 \$0.08 \$30.98 \$31.00 3,013,700 -3.7	9%
12/12/2013 \$30.77 - \$30.76 \$30.77 1,259,800 -0.7	4%
12/13/2013 \$31.07 - \$31.06 \$31.07 1,823,200 0.9	7%
12/16/2013 \$30.50 - \$30.48 \$30.49 3,412,300 -1.8	5%
12/17/2013 \$29.76 - \$29.76 \$29.77 3,405,500 -2.4	6%
12/18/2013 \$29.87 - \$29.86 \$29.87 4,875,700 0.3	7%
12/19/2013 \$29.80 - \$29.79 \$29.80 2,186,100 -0.2	3%
12/20/2013 \$30.41 - \$30.40 \$30.41 2,791,900 2.0	3%
12/23/2013 \$30.47 - \$30.46 \$30.47 1,767,900 0.2	0%
12/24/2013 \$30.19 - \$30.18 \$30.19 720,300 -0.9	2%
12/26/2013 \$30.51 - \$30.50 \$30.51 1,065,300 1.0	5%
12/27/2013 \$30.68 - \$30.68 \$30.69 846,300 0.5	6%
12/30/2013 \$31.09 - \$31.08 \$31.09 1,304,300 1.3	3%
12/31/2013 \$31.89 - \$31.89 \$31.90 1,945,100 2.5	4%
1/2/2014 \$30.91 - \$30.91 \$30.92 1,800,600 -3.1	2%
1/3/2014 \$31.28 - \$31.26 \$31.27 1,001,700 1.1	9%
1/6/2014 \$31.19 - \$31.18 \$31.19 1,543,400 -0.2	9%
1/7/2014 \$31.89 - \$31.88 \$31.89 2,720,200 2.2	2%
1/8/2014 \$32.09 - \$32.09 \$32.10 2,083,400 0.6	3%
1/9/2014 \$32.14 - \$32.13 \$32.14 1,393,400 0.1	6%
1/10/2014 \$31.66 - \$31.65 \$31.66 2,012,900 -1.5	0%
1/13/2014 \$31.92 - \$31.93 \$31.94 2,378,700 0.8	2%
1/14/2014 \$31.79 - \$31.80 \$31.81 6,514,100 -0.4	1%

Exhibit-4
KBR Stock Prices, Divdends, Volume, and Returns

Date	KBR Closing Price	KBR Dividend	KBR Closing Bid	KBR Closing Ask	KBR Trading Volume	KBR Logarithmic Return
- Date	11100	Dividend	Diu	ASK	Volume	
1/15/2014	\$33.62	-	\$33.61	\$33.62	5,988,200	5.60%
1/16/2014	\$32.85	-	\$32.85	\$32.86	2,966,600	-2.32%
1/17/2014	\$32.86	-	\$32.85	\$32.86	1,430,900	0.03%
1/21/2014	\$32.96	-	\$32.94	\$32.96	1,347,000	0.30%
1/22/2014	\$33.11	-	\$33.10	\$33.11	2,496,500	0.45%
1/23/2014	\$32.69	-	\$32.70	\$32.71	2,197,700	-1.28%
1/24/2014	\$31.67	-	\$31.67	\$31.68	2,177,100	-3.17%
1/27/2014	\$31.76	-	\$31.75	\$31.76	2,075,200	0.28%
1/28/2014	\$31.70	-	\$31.70	\$31.71	1,977,500	-0.19%
1/29/2014	\$31.99	-	\$31.99	\$32.00	2,207,000	0.91%
1/30/2014	\$31.75	-	\$31.75	\$31.76	1,723,700	-0.75%
1/31/2014	\$31.30	-	\$31.30	\$31.31	1,424,400	-1.43%
2/3/2014	\$30.09	-	\$30.10	\$30.11	2,560,900	-3.94%
2/4/2014	\$30.62	-	\$30.62	\$30.63	1,273,400	1.75%
2/5/2014	\$30.30	-	\$30.30	\$30.31	820,500	-1.05%
2/6/2014	\$30.25	-	\$30.25	\$30.26	1,517,300	-0.17%
2/7/2014	\$30.95	-	\$30.94	\$30.95	842,500	2.29%
2/10/2014	\$30.72	-	\$30.72	\$30.73	1,146,900	-0.75%
2/11/2014	\$31.02	-	\$31.02	\$31.02	741,200	0.97%
2/12/2014	\$31.70	-	\$31.70	\$31.71	1,185,800	2.17%
2/13/2014	\$31.30	-	\$31.29	\$31.30	844,900	-1.27%
2/14/2014	\$31.56	-	\$31.55	\$31.56	482,100	0.83%
2/18/2014	\$31.76	-	\$31.75	\$31.76	903,900	0.63%
2/19/2014	\$31.69	-	\$31.69	\$31.70	1,256,100	-0.22%
2/20/2014	\$31.69	-	\$31.67	\$31.68	766,100	0.00%
2/21/2014	\$30.84	-	\$30.84	\$30.85	2,127,800	-2.72%
2/24/2014	\$31.43	-	\$31.42	\$31.43	1,639,100	1.90%
2/25/2014	\$31.47	-	\$31.46	\$31.47	1,691,500	0.13%
2/26/2014	\$31.43	-	\$31.42	\$31.43	1,424,600	-0.13%
2/27/2014	\$31.94	-	\$31.93	\$31.94	2,249,200	1.61%
2/28/2014	\$27.62	-	\$27.61	\$27.62	13,683,700	-14.53%
3/3/2014	\$27.18	-	\$27.18	\$27.19	3,837,239	-1.61%
3/4/2014	\$27.63	-	\$27.63	\$27.64	4,462,461	1.64%
3/5/2014	\$27.85	-	\$27.85	\$27.86	4,936,646	0.79%
3/6/2014	\$28.45	-	\$28.44	\$28.45	4,038,578	2.13%
3/7/2014	\$28.66	-	\$28.65	\$28.66	3,129,417	0.74%
3/10/2014	\$28.38	-	\$28.38	\$28.38	1,515,284	-0.98%
3/11/2014	\$27.95	-	\$27.94	\$27.95	2,592,973	-1.53%
3/12/2014	\$27.70	\$0.08	\$27.69	\$27.70	1,685,311	-0.61%

Exhibit-4
KBR Stock Prices, Divdends, Volume, and Returns

	KBR		KBR	KBR	KBR	KBR
	Closing	KBR	Closing	Closing	Trading	Logarithmic
Date	Price	Dividend	Bid	Ask	Volume	Return
3/13/2014	\$27.42	-	\$27.42	\$27.43	1,265,770	-1.02%
3/14/2014	\$27.84	-	\$27.84	\$27.85	1,949,773	1.52%
3/17/2014	\$27.99	-	\$27.99	\$28.00	1,965,748	0.54%
3/18/2014	\$28.28	-	\$28.29	\$28.30	2,040,536	1.03%
3/19/2014	\$28.30	-	\$28.30	\$28.31	1,902,998	0.07%
3/20/2014	\$27.50	-	\$27.49	\$27.50	2,064,822	-2.87%
3/21/2014	\$27.65	-	\$27.65	\$27.66	2,862,183	0.54%
3/24/2014	\$27.38	-	\$27.38	\$27.39	2,167,057	-0.98%
3/25/2014	\$26.78	-	\$26.77	\$26.78	3,572,757	-2.22%
3/26/2014	\$26.55	-	\$26.54	\$26.55	5,374,433	-0.86%
3/27/2014	\$26.35	-	\$26.34	\$26.35	2,833,277	-0.76%
3/28/2014	\$26.61	-	\$26.59	\$26.60	2,195,493	0.98%
3/31/2014	\$26.68	-	\$26.68	\$26.69	3,010,321	0.26%
4/1/2014	\$27.04	-	\$27.02	\$27.03	2,643,526	1.34%
4/2/2014	\$27.35	-	\$27.34	\$27.35	1,558,099	1.14%
4/3/2014	\$27.51	-	\$27.49	\$27.50	1,966,330	0.58%
4/4/2014	\$27.48	-	\$27.48	\$27.49	2,035,420	-0.11%
4/7/2014	\$26.69	-	\$26.68	\$26.69	2,258,444	-2.92%
4/8/2014	\$26.53	-	\$26.52	\$26.53	2,341,474	-0.60%
4/9/2014	\$27.16	-	\$27.15	\$27.16	3,066,100	2.35%
4/10/2014	\$26.45	-	\$26.45	\$26.46	2,218,038	-2.65%
4/11/2014	\$26.06	-	\$26.05	\$26.06	2,567,772	-1.49%
4/14/2014	\$26.05	-	\$26.04	\$26.05	1,937,756	-0.04%
4/15/2014	\$25.97	-	\$25.96	\$25.97	2,788,043	-0.31%
4/16/2014	\$26.14	-	\$26.13	\$26.14	2,244,549	0.65%
4/17/2014	\$26.32	-	\$26.32	\$26.33	2,454,962	0.69%
4/21/2014	\$26.34	-	\$26.34	\$26.35	2,108,593	0.08%
4/22/2014	\$26.37	-	\$26.35	\$26.36	1,935,136	0.11%
4/23/2014	\$26.30	-	\$26.29	\$26.30	1,456,095	-0.27%
4/24/2014	\$26.03	-	\$26.02	\$26.03	3,405,658	-1.03%
4/25/2014	\$25.40	-	\$25.40	\$25.41	1,806,975	-2.45%
4/28/2014	\$25.14	-	\$25.13	\$25.14	3,135,422	-1.03%
4/29/2014	\$25.23	-	\$25.22	\$25.23	4,281,681	0.36%
4/30/2014	\$25.37	-	\$25.36	\$25.37	2,468,195	0.55%
5/1/2014	\$25.54	-	\$25.54	\$25.55	1,677,315	0.67%
5/2/2014	\$25.84	-	\$25.84	\$25.85	1,899,827	1.17%
5/5/2014	\$24.23	-	\$24.23	\$24.24	4,033,212	-6.43%
5/6/2014	\$23.48	-	\$23.47	\$23.48	3,011,166	-3.14%
5/7/2014	\$23.44	-	\$23.43	\$23.44	3,016,965	-0.17%

Exhibit-4
KBR Stock Prices, Divdends, Volume, and Returns

Date	KBR Closing Price	KBR Dividend	KBR Closing Bid	KBR Closing Ask	KBR Trading Volume	KBR Logarithmic Return
5/8/2014	\$23.52	-	\$23.52	\$23.53	3,921,905	0.34%
5/9/2014	\$23.82	-	\$23.82	\$23.83	3,098,253	1.27%
5/12/2014	\$24.21	_	\$24.21	\$24.22	2,012,414	1.62%
5/13/2014	\$23.96	_	\$23.96	\$23.97	2,479,829	-1.04%
5/14/2014	\$23.54	-	\$23.53	\$23.54	2,650,734	-1.77%
5/15/2014	\$23.16	-	\$23.16	\$23.17	2,281,367	-1.63%
5/16/2014	\$23.00	-	\$22.99	\$23.00	2,091,592	-0.69%
5/19/2014	\$23.05	-	\$23.05	\$23.06	1,733,160	0.22%
5/20/2014	\$22.62	-	\$22.62	\$22.63	1,545,133	-1.88%
5/21/2014	\$22.89	-	\$22.89	\$22.90	1,486,906	1.19%
5/22/2014	\$23.15	-	\$23.15	\$23.16	1,283,459	1.13%
5/23/2014	\$23.30	-	\$23.30	\$23.31	1,061,151	0.65%
5/27/2014	\$24.26	-	\$24.26	\$24.27	2,748,396	4.04%
5/28/2014	\$24.38	-	\$24.38	\$24.39	2,912,045	0.49%
5/29/2014	\$24.26	-	\$24.26	\$24.27	1,304,016	-0.49%
5/30/2014	\$24.29	-	\$24.27	\$24.28	1,768,521	0.12%
6/2/2014	\$24.66	-	\$24.65	\$24.66	2,068,755	1.51%
6/3/2014	\$24.61	-	\$24.61	\$24.62	2,376,074	-0.20%
6/4/2014	\$25.05	-	\$25.04	\$25.05	1,962,765	1.77%
6/5/2014	\$25.47	-	\$25.47	\$25.48	2,597,227	1.66%
6/6/2014	\$25.93	-	\$25.93	\$25.94	1,881,787	1.79%
6/9/2014	\$26.34	-	\$26.34	\$26.35	1,647,777	1.57%
6/10/2014	\$26.59	-	\$26.59	\$26.60	1,906,217	0.94%
6/11/2014	\$26.21	\$0.08	\$26.21	\$26.22	2,372,693	-1.13%
6/12/2014	\$26.01	-	\$26.01	\$26.02	1,174,390	-0.77%
6/13/2014	\$26.12	-	\$26.12	\$26.13	976,851	0.42%
6/16/2014	\$26.06	-	\$26.06	\$26.07	1,343,329	-0.23%
6/17/2014	\$26.19	-	\$26.20	\$26.21	1,189,123	0.50%
6/18/2014	\$26.32	-	\$26.32	\$26.33	1,507,763	0.50%
6/19/2014	\$24.46	-	\$24.45	\$24.46	13,388,535	-7.33%
6/20/2014	\$24.20	-	\$24.19	\$24.20	3,314,445	-1.07%
6/23/2014	\$23.99	-	\$23.99	\$24.00	1,925,227	-0.87%
6/24/2014	\$23.66	-	\$23.66	\$23.67	2,040,934	-1.39%
6/25/2014	\$23.98	-	\$23.98	\$23.99	1,444,912	1.34%
6/26/2014	\$23.51	-	\$23.51	\$23.52	1,894,056	-1.98%
6/27/2014	\$23.84	-	\$23.83	\$23.84	1,489,569	1.39%
6/30/2014	\$23.85	-	\$23.85	\$23.85	1,590,158	0.04%
7/1/2014	\$24.22	-	\$24.21	\$24.22	2,089,110	1.54%
7/2/2014	\$23.90	-	\$23.90	\$23.91	1,632,388	-1.33%

Exhibit-4
KBR Stock Prices, Divdends, Volume, and Returns

Date	KBR Closing Price	KBR Dividend	KBR Closing Bid	KBR Closing Ask	KBR Trading Volume	KBR Logarithmic Return
7/3/2014	\$23.90	-	\$23.91	\$23.92	1,571,788	0.00%
7/7/2014	\$23.75	-	\$23.75	\$23.76	1,693,694	-0.63%
7/8/2014	\$23.66	-	\$23.66	\$23.67	2,814,201	-0.38%
7/9/2014	\$23.51	-	\$23.50	\$23.51	2,275,279	-0.64%
7/10/2014	\$23.05	-	\$23.05	\$23.06	1,541,143	-1.98%
7/11/2014	\$23.00	-	\$22.99	\$23.00	1,429,985	-0.22%
7/14/2014	\$23.29	-	\$23.28	\$23.29	1,824,983	1.25%
7/15/2014	\$23.05	-	\$23.04	\$23.05	1,501,242	-1.04%
7/16/2014	\$23.13	-	\$23.12	\$23.13	1,586,517	0.35%
7/17/2014	\$22.91	-	\$22.91	\$22.92	996,263	-0.96%
7/18/2014	\$23.07	-	\$23.06	\$23.07	860,895	0.70%
7/21/2014	\$23.05	-	\$23.04	\$23.05	746,039	-0.09%
7/22/2014	\$23.35	-	\$23.35	\$23.36	1,100,412	1.29%
7/23/2014	\$23.50	-	\$23.50	\$23.51	841,713	0.64%
7/24/2014	\$23.34	-	\$23.33	\$23.34	1,339,331	-0.68%
7/25/2014	\$22.66	-	\$22.65	\$22.66	1,468,895	-2.96%
7/28/2014	\$22.39	-	\$22.40	\$22.41	1,163,429	-1.20%
7/29/2014	\$22.00	-	\$22.00	\$22.01	1,632,445	-1.76%
7/30/2014	\$22.16	-	\$22.16	\$22.17	1,620,741	0.72%
7/31/2014	\$20.66	-	\$20.66	\$20.67	4,566,467	-7.01%

Source: CRSP.

Exhibit-5
Market Index and Peer Index Returns

Date	Market Index Level <sup>[1]</sup>	Market Index Return	Peer Index Level <sup>[2]</sup>	Peer Index Return
7/30/2013	4979.37	Return	468.37	Ttetui ii
7/31/2013	4980.42	0.02%	476.70	1.76%
8/1/2013	5042.56	1.24%	491.62	3.08%
8/2/2013	5049.21	0.13%	496.11	0.91%
8/5/2013	5045.84	-0.07%	490.11	-0.25%
8/6/2013	5012.50	-0.66%	478.41	-3.38%
8/7/2013	4989.67	-0.46%	475.29	-0.65%
8/8/2013	5016.35	0.53%	483.59	1.73%
8/9/2013	5006.19	-0.20%	485.09	0.31%
8/12/2013	5004.88	-0.03%	483.72	-0.28%
8/13/2013	5012.61	0.15%	483.59	-0.03%
8/14/2013	4991.44	-0.42%	486.43	0.58%
8/15/2013	4925.44	-1.33%	481.50	-1.02%
8/16/2013	4911.09	-0.29%	483.49	0.41%
8/19/2013	4876.38	-0.71%	474.93	-1.79%
8/20/2013	4904.41	0.57%	477.14	0.46%
8/21/2013	4874.71	-0.61%	475.06	-0.44%
8/22/2013	4919.41	0.91%	484.14	1.89%
8/23/2013	4940.44	0.43%	483.52	-0.13%
8/26/2013	4926.39	-0.28%	483.53	0.00%
8/27/2013	4845.05	-1.66%	472.10	-2.39%
8/28/2013	4858.22	0.27%	471.76	-0.07%
8/29/2013	4874.29	0.33%	471.90	0.03%
8/30/2013	4850.68	-0.49%	466.84	-1.08%
9/3/2013	4872.41	0.45%	467.16	0.07%
9/4/2013	4909.95	0.77%	470.19	0.65%
9/5/2013	4919.47	0.19%	472.67	0.53%
9/6/2013	4923.69	0.09%	469.10	-0.76%
9/9/2013	4977.09	1.08%	476.28	1.52%
9/10/2013	5013.72	0.73%	482.99	1.40%
9/11/2013	5027.64	0.28%	483.46	0.10%
9/12/2013	5008.03	-0.39%	486.44	0.61%
9/13/2013	5021.28	0.26%	483.81	-0.54%
9/16/2013	5047.22	0.52%	490.39	1.35%
9/17/2013	5072.99	0.51%	492.67	0.46%
9/18/2013	5134.98	1.21%	504.07	2.29%
9/19/2013	5129.54	-0.11%	509.02	0.98%
9/20/2013	5092.65	-0.72%	507.09	-0.38%

Exhibit-5
Market Index and Peer Index Returns

	<b>Market Index</b>	Market Index	<b>Peer Index</b>	Peer Index
Date	Level <sup>[1]</sup>	Return	Level <sup>[2]</sup>	Return
9/23/2013	5070.81	-0.43%	501.76	-1.06%
9/24/2013	5064.74	-0.12%	503.87	0.42%
9/25/2013	5056.08	-0.17%	505.57	0.34%
9/26/2013	5076.54	0.40%	508.62	0.60%
9/27/2013	5058.27	-0.36%	503.98	-0.92%
9/30/2013	5033.53	-0.49%	504.62	0.13%
10/1/2013	5078.29	0.89%	513.50	1.74%
10/2/2013	5074.36	-0.08%	516.45	0.57%
10/3/2013	5029.81	-0.88%	507.70	-1.71%
10/4/2013	5064.30	0.68%	509.79	0.41%
10/7/2013	5020.60	-0.87%	505.36	-0.87%
10/8/2013	4953.50	-1.35%	494.68	-2.14%
10/9/2013	4950.86	-0.05%	494.95	0.05%
10/10/2013	5056.45	2.11%	508.42	2.69%
10/11/2013	5092.27	0.71%	515.43	1.37%
10/14/2013	5113.47	0.42%	520.67	1.01%
10/15/2013	5078.16	-0.69%	513.85	-1.32%
10/16/2013	5144.18	1.29%	521.43	1.46%
10/17/2013	5183.89	0.77%	531.72	1.96%
10/18/2013	5220.74	0.71%	538.23	1.22%
10/21/2013	5221.60	0.02%	539.57	0.25%
10/22/2013	5250.06	0.54%	541.51	0.36%
10/23/2013	5222.61	-0.52%	535.83	-1.05%
10/24/2013	5244.05	0.41%	537.18	0.25%
10/25/2013	5260.67	0.32%	532.30	-0.91%
10/28/2013	5262.42	0.03%	533.80	0.28%
10/29/2013	5286.32	0.45%	535.52	0.32%
10/30/2013	5255.99	-0.58%	535.78	0.05%
10/31/2013	5237.72	-0.35%	531.14	-0.87%
11/1/2013	5245.78	0.15%	533.28	0.40%
11/4/2013	5268.61	0.43%	540.67	1.38%
11/5/2013	5253.70	-0.28%	537.84	-0.52%
11/6/2013	5269.38	0.30%	538.15	0.06%
11/7/2013	5195.56	-1.41%	532.81	-1.00%
11/8/2013	5261.59	1.26%	544.66	2.20%
11/11/2013	5267.17	0.11%	544.86	0.04%
11/12/2013	5255.51	-0.22%	541.39	-0.64%
11/13/2013	5301.27	0.87%	547.44	1.11%

Exhibit-5
Market Index and Peer Index Returns

	Market Index	Market Index	<b>Peer Index</b>	Peer Index
Date	Level <sup>[1]</sup>	Return	Level <sup>[2]</sup>	Return
11/14/2013	5325.10	0.45%	550.36	0.53%
11/15/2013	5348.41	0.44%	551.57	0.22%
11/18/2013	5322.72	-0.48%	546.45	-0.93%
11/19/2013	5304.76	-0.34%	534.80	-2.15%
11/20/2013	5287.90	-0.32%	532.38	-0.46%
11/21/2013	5334.62	0.88%	537.74	1.00%
11/22/2013	5359.41	0.46%	537.64	-0.02%
11/25/2013	5351.97	-0.14%	534.91	-0.51%
11/26/2013	5357.92	0.11%	538.36	0.64%
11/27/2013	5372.71	0.28%	539.89	0.28%
11/29/2013	5373.37	0.01%	539.52	-0.07%
12/2/2013	5354.66	-0.35%	540.26	0.14%
12/3/2013	5334.67	-0.37%	534.98	-0.98%
12/4/2013	5329.49	-0.10%	533.66	-0.25%
12/5/2013	5310.81	-0.35%	529.15	-0.85%
12/6/2013	5362.22	0.96%	536.36	1.35%
12/9/2013	5372.26	0.19%	536.56	0.04%
12/10/2013	5356.60	-0.29%	537.49	0.17%
12/11/2013	5291.66	-1.22%	526.58	-2.05%
12/12/2013	5278.56	-0.25%	521.11	-1.04%
12/13/2013	5285.39	0.13%	524.67	0.68%
12/16/2013	5319.73	0.65%	528.54	0.73%
12/17/2013	5307.44	-0.23%	528.53	-0.00%
12/18/2013	5385.14	1.45%	542.13	2.54%
12/19/2013	5380.80	-0.08%	544.63	0.46%
12/20/2013	5418.53	0.70%	550.37	1.05%
12/23/2013	5452.66	0.63%	551.11	0.13%
12/24/2013	5471.87	0.35%	552.24	0.20%
12/26/2013	5494.26	0.41%	556.17	0.71%
12/27/2013	5493.15	-0.02%	556.25	0.01%
12/30/2013	5494.56	0.03%	556.25	0.00%
12/31/2013	5518.28	0.43%	563.41	1.28%
1/2/2014	5470.42	-0.87%	554.95	-1.51%
1/3/2014	5472.95	0.05%	555.16	0.04%
1/6/2014	5454.38	-0.34%	551.02	-0.75%
1/7/2014	5488.08	0.62%	557.38	1.15%
1/8/2014	5489.31	0.02%	557.16	-0.04%
1/9/2014	5490.07	0.01%	560.00	0.51%

Exhibit-5
Market Index and Peer Index Returns

	<b>Market Index</b>	Market Index	<b>Peer Index</b>	Peer Index
Date	Level <sup>[1]</sup>	Return	Level <sup>[2]</sup>	Return
1/10/2014	5508.83	0.34%	561.14	0.20%
1/13/2014	5443.82	-1.19%	556.21	-0.88%
1/14/2014	5500.56	1.04%	562.04	1.04%
1/15/2014	5528.92	0.51%	568.76	1.19%
1/16/2014	5527.70	-0.02%	566.52	-0.39%
1/17/2014	5508.16	-0.35%	571.97	0.96%
1/21/2014	5526.99	0.34%	575.49	0.61%
1/22/2014	5535.00	0.14%	579.07	0.62%
1/23/2014	5489.46	-0.83%	568.62	-1.82%
1/24/2014	5372.50	-2.15%	545.66	-4.12%
1/27/2014	5336.44	-0.67%	541.86	-0.70%
1/28/2014	5375.63	0.73%	546.32	0.82%
1/29/2014	5321.46	-1.01%	540.01	-1.16%
1/30/2014	5384.20	1.17%	541.61	0.30%
1/31/2014	5352.77	-0.59%	536.61	-0.93%
2/3/2014	5227.06	-2.38%	520.00	-3.15%
2/4/2014	5266.91	0.76%	530.10	1.92%
2/5/2014	5256.52	-0.20%	525.67	-0.84%
2/6/2014	5319.40	1.19%	531.48	1.10%
2/7/2014	5387.41	1.27%	540.02	1.59%
2/10/2014	5396.24	0.16%	538.27	-0.32%
2/11/2014	5453.50	1.06%	542.41	0.77%
2/12/2014	5460.03	0.12%	552.75	1.89%
2/13/2014	5498.64	0.70%	549.38	-0.61%
2/14/2014	5521.00	0.41%	553.56	0.76%
2/18/2014	5538.68	0.32%	558.33	0.86%
2/19/2014	5500.42	-0.69%	556.12	-0.40%
2/20/2014	5536.31	0.65%	563.46	1.31%
2/21/2014	5531.21	-0.09%	558.29	-0.92%
2/24/2014	5565.88	0.62%	561.15	0.51%
2/25/2014	5558.91	-0.13%	558.12	-0.54%
2/26/2014	5565.08	0.11%	565.07	1.24%
2/27/2014	5592.30	0.49%	567.76	0.48%
2/28/2014	5601.97	0.17%	563.67	-0.72%
3/3/2014	5565.00	-0.66%	558.05	-1.00%
3/4/2014	5651.93	1.55%	567.97	1.76%
3/5/2014	5654.17	0.04%	567.38	-0.10%
3/6/2014	5663.12	0.16%	576.65	1.62%

Exhibit-5
Market Index and Peer Index Returns

	Market Index	Market Index	<b>Peer Index</b>	Peer Index
Date	Level <sup>[1]</sup>	Return	Level <sup>[2]</sup>	Return
3/7/2014	5659.29	-0.07%	575.58	-0.18%
3/10/2014	5652.62	-0.12%	570.06	-0.97%
3/11/2014	5621.05	-0.56%	565.04	-0.88%
3/12/2014	5628.41	0.13%	562.07	-0.53%
3/13/2014	5565.23	-1.13%	555.76	-1.13%
3/14/2014	5557.06	-0.15%	555.22	-0.10%
3/17/2014	5603.76	0.84%	560.61	0.97%
3/18/2014	5647.19	0.77%	572.74	2.14%
3/19/2014	5609.30	-0.67%	568.83	-0.69%
3/20/2014	5636.51	0.48%	569.92	0.19%
3/21/2014	5619.78	-0.30%	575.98	1.06%
3/24/2014	5584.61	-0.63%	569.73	-1.09%
3/25/2014	5603.34	0.33%	570.68	0.17%
3/26/2014	5556.59	-0.84%	563.25	-1.31%
3/27/2014	5549.88	-0.12%	561.58	-0.30%
3/28/2014	5574.75	0.45%	567.88	1.11%
3/31/2014	5626.78	0.93%	574.70	1.19%
4/1/2014	5674.11	0.84%	576.83	0.37%
4/2/2014	5690.21	0.28%	580.31	0.60%
4/3/2014	5672.34	-0.31%	580.37	0.01%
4/4/2014	5598.91	-1.30%	574.87	-0.95%
4/7/2014	5532.11	-1.20%	561.28	-2.39%
4/8/2014	5562.34	0.55%	564.26	0.53%
4/9/2014	5626.17	1.14%	574.04	1.72%
4/10/2014	5507.23	-2.14%	563.80	-1.80%
4/11/2014	5452.19	-1.00%	553.12	-1.91%
4/14/2014	5488.30	0.66%	557.36	0.76%
4/15/2014	5518.11	0.54%	560.06	0.48%
4/16/2014	5577.56	1.07%	568.04	1.42%
4/17/2014	5590.30	0.23%	573.96	1.04%
4/21/2014	5610.52	0.36%	573.20	-0.13%
4/22/2014	5642.54	0.57%	577.15	0.69%
4/23/2014	5626.59	-0.28%	574.00	-0.55%
4/24/2014	5630.67	0.07%	565.80	-1.44%
4/25/2014	5576.31	-0.97%	555.22	-1.89%
4/28/2014	5582.32	0.11%	550.83	-0.79%
4/29/2014	5614.26	0.57%	544.78	-1.11%
4/30/2014	5633.73	0.35%	549.81	0.92%

Exhibit-5
Market Index and Peer Index Returns

	Market Index	Market Index	Peer Index		
Date	Level <sup>[1]</sup>	Return	Level <sup>[2]</sup>	Return	
5/1/2014	5638.06	0.08%	550.12	0.06%	
5/2/2014	5636.28	-0.03%	548.30	-0.33%	
5/5/2014	5643.92	0.14%	540.59	-1.42%	
5/6/2014	5593.28	-0.90%	537.93	-0.49%	
5/7/2014	5618.25	0.45%	541.14	0.59%	
5/8/2014	5602.86	-0.27%	538.34	-0.52%	
5/9/2014	5611.98	0.16%	536.78	-0.29%	
5/12/2014	5675.50	1.13%	544.36	1.40%	
5/13/2014	5671.52	-0.07%	543.87	-0.09%	
5/14/2014	5643.82	-0.49%	535.11	-1.62%	
5/15/2014	5596.01	-0.85%	525.80	-1.76%	
5/16/2014	5615.10	0.34%	521.23	-0.87%	
5/19/2014	5639.97	0.44%	525.52	0.82%	
5/20/2014	5600.46	-0.70%	519.76	-1.10%	
5/21/2014	5642.67	0.75%	525.13	1.03%	
5/22/2014	5662.47	0.35%	526.16	0.20%	
5/23/2014	5689.99	0.48%	529.01	0.54%	
5/27/2014	5724.46	0.60%	539.84	2.03%	
5/28/2014	5716.80	-0.13%	539.96	0.02%	
5/29/2014	5745.20	0.50%	541.56	0.30%	
5/30/2014	5749.41	0.07%	540.39	-0.22%	
6/2/2014	5753.49	0.07%	541.56	0.22%	
6/3/2014	5751.31	-0.04%	538.78	-0.52%	
6/4/2014	5766.63	0.27%	540.59	0.34%	
6/5/2014	5808.52	0.72%	551.57	2.01%	
6/6/2014	5838.40	0.51%	561.13	1.72%	
6/9/2014	5849.60	0.19%	565.56	0.79%	
6/10/2014	5847.47	-0.04%	561.63	-0.70%	
6/11/2014	5829.43	-0.31%	552.76	-1.59%	
6/12/2014	5795.27	-0.59%	542.89	-1.80%	
6/13/2014	5813.41	0.31%	541.46	-0.26%	
6/16/2014	5822.16	0.15%	537.39	-0.76%	
6/17/2014	5839.71	0.30%	533.64	-0.70%	
6/18/2014	5880.44	0.69%	535.36	0.32%	
6/19/2014	5889.92	0.16%	536.03	0.13%	
6/20/2014	5902.51	0.21%	538.79	0.51%	
6/23/2014	5903.62	0.02%	534.39	-0.82%	
6/24/2014	5861.49	-0.72%	522.24	-2.30%	

Exhibit-5
Market Index and Peer Index Returns

	Market Index	Walket Mack		Peer Index		
Date	Level <sup>[1]</sup>	Return	Level <sup>[2]</sup>	Return		
6/25/2014	5892.21	0.52%	524.11	0.36%		
6/26/2014	5888.85	-0.06%	523.70	-0.08%		
6/27/2014	5906.14	0.29%	526.78	0.59%		
6/30/2014	5912.28	0.10%	526.51	-0.05%		
7/1/2014	5952.94	0.69%	533.08	1.24%		
7/2/2014	5951.04	-0.03%	532.52	-0.11%		
7/3/2014	5981.26	0.51%	536.90	0.82%		
7/7/2014	5944.17	-0.62%	530.91	-1.12%		
7/8/2014	5899.69	-0.75%	528.08	-0.53%		
7/9/2014	5926.44	0.45%	528.61	0.10%		
7/10/2014	5897.63	-0.49%	523.53	-0.97%		
7/11/2014	5902.22	0.08%	525.10	0.30%		
7/14/2014	5929.67	0.46%	533.49	1.59%		
7/15/2014	5909.95	-0.33%	532.42	-0.20%		
7/16/2014	5932.47	0.38%	533.08	0.12%		
7/17/2014	5866.73	-1.11%	527.53	-1.05%		
7/18/2014	5927.70	1.03%	533.09	1.05%		
7/21/2014	5914.60	-0.22%	531.72	-0.26%		
7/22/2014	5945.13	0.51%	535.90	0.78%		
7/23/2014	5956.32	0.19%	536.53	0.12%		
7/24/2014	5957.86	0.03%	533.08	-0.65%		
7/25/2014	5927.19	-0.52%	519.99	-2.49%		
7/28/2014	5923.87	-0.06%	518.66	-0.26%		
7/29/2014	5901.97	-0.37%	509.47	-1.79%		
7/30/2014	5905.72	0.06%	509.76	0.06%		
7/31/2014	5790.12	-1.98%	495.23	-2.89%		

#### **Notes**:

<sup>[1]</sup> Market Index data obtained from CRSP.

<sup>[2]</sup> Peer Index data obtained from Bloomberg under ticker "DJUSHV." Daily Peer Index Levels are obtained using the "TOT\_RETURN\_INDEX\_NET\_DVDS" field.

Exhibit-6
KBR Common Stock Regression Results

Estimation Period: July 31, 2013 through July 30, 2014

Regression Statistics					
R Squared	0.722				
Adjusted R Squared	0.715				
Standard Error	0.98%				
Observations	252				

	Coefficients	Standard Error	t- statistic
Intercept	-0.04%	0.06%	-0.59
Market Index	0.075	0.163	0.46
Peer Index	0.909	0.097	9.40
October 25, 2013	-4.77%	0.99%	-4.83
February 28, 2014	-13.85%	0.98%	-14.09
May 5, 2014	-5.12%	0.99%	-5.17
June 19, 2014	-7.42%	0.98%	-7.58

Exhibit-7

KBR Common Stock Event Study Results

## **Allegation-Related Events**

Date	KBR Closing Price	KBR Prior Day Closing Price	KBR Return	Market Index Return	Peer Index Return	KBR Explained Return	KBR Residual Return	<i>t</i> -statistic
February 28, 2014	\$27.62	\$31.94	-14.53%	0.17%	-0.72%	-0.68%	-13.85%	-14.17
May 5, 2014 June 19, 2014 July 31, 2014	\$24.23 \$24.46 \$20.66	\$25.84 \$26.32 \$22.16	-6.43% -7.33% -7.01%	0.14% 0.16% -1.98%	-1.42% 0.13% -2.89%	-1.31% 0.09% -2.81%	-5.12% -7.42% -4.20%	-5.24 -7.59 -4.29

## **Earnings and Guidance Announcement Events**

Date	KBR Closing Price	KBR Prior Day Closing Price	KBR Return	Market Index Return	Peer Index Return	KBR Explained Return	KBR Residual Return	<i>t</i> -statistic
October 25, 2013	\$33.75	\$35.70	-5.62%	0.32%	-0.91%	-0.84%	-4.77%	-4.88
February 28, 2014	\$27.62	\$31.94	-14.53%	0.17%	-0.72%	-0.68%	-13.85%	-14.17
May 5, 2014	\$24.23	\$25.84	-6.43%	0.14%	-1.42%	-1.31%	-5.12%	-5.24
June 19, 2014	\$24.46	\$26.32	-7.33%	0.16%	0.13%	0.09%	-7.42%	-7.59
July 31, 2014	\$20.66	\$22.16	-7.01%	-1.98%	-2.89%	-2.81%	-4.20%	-4.29